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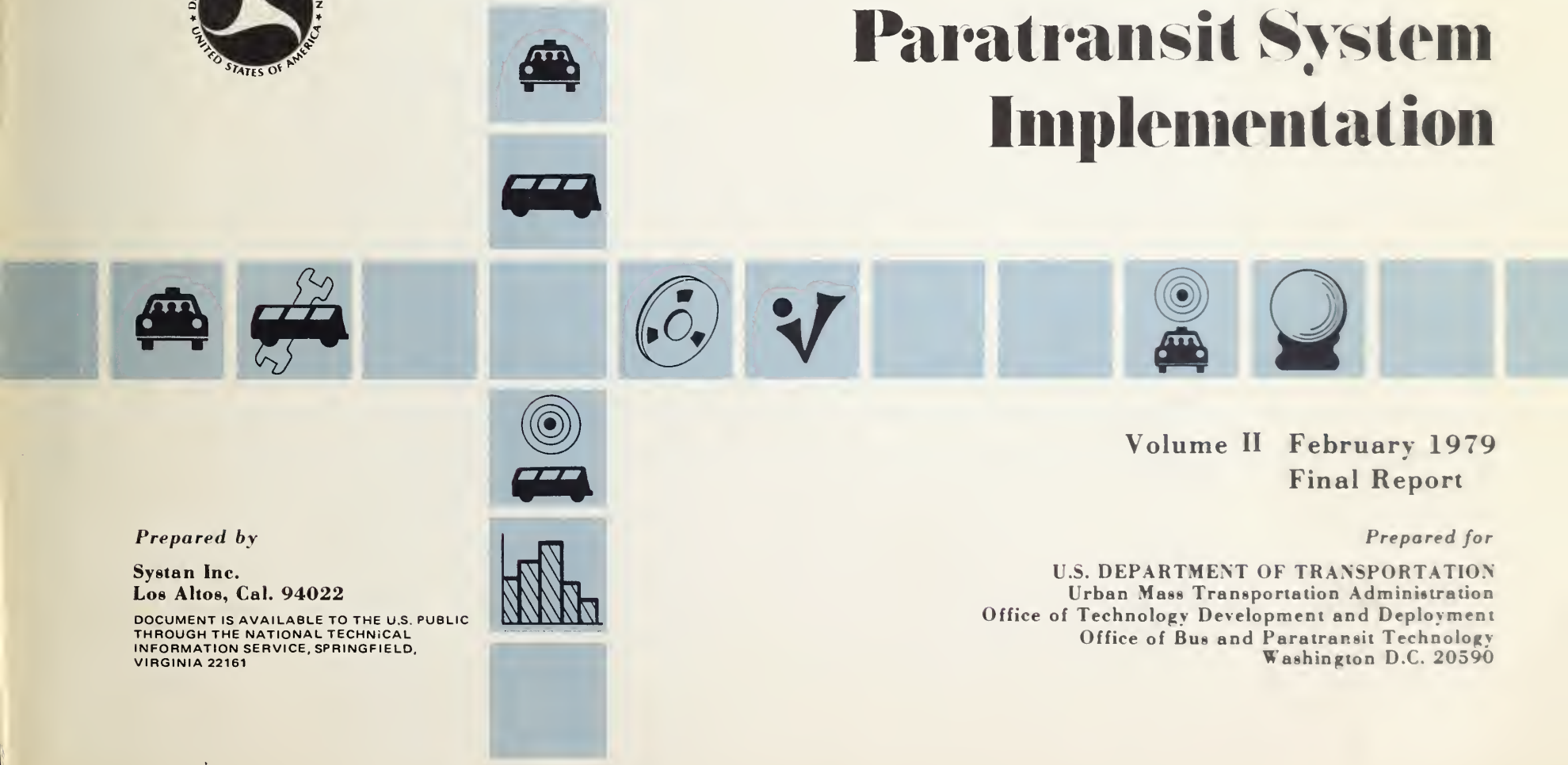
Paratransit Handbook

a guide to Paratransit System Implementation



Volume II February 1979
Final Report

Prepared by

Systan Inc.
Los Altos, Cal. 94022

Prepared for

U.S. DEPARTMENT OF TRANSPORTATION
Urban Mass Transportation Administration
Office of Technology Development and Deployment
Office of Bus and Paratransit Technology
Washington D.C. 20590

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16. Abstract

This Paratransit Handbook has been developed to aid public officials, planners and system operators in planning, designing, implementing, operating and evaluating integrated paratransit systems. The Handbook represents a compedium of techniques and experience drawn from existing dial-a-bus and shared-ride taxi paratransit systems. Five interrelated sections in two volumes comprise the Handbook: Volume I; Part 1, the Introduction, summarizes the current state-of-the-art of integrated paratransit systems; Part 2, Creating the System, contains prescriptive guidance for the individual tasks required in planning, designing, implementing, operating and evaluating integrated systems. Each element of this key section contains overview flow diagrams showing the major relationship of individual tasks, cross-references to more detailed examples contained in other sections of the Handbook, and a summary of pitfalls to be avoided. Part 3, System Characteristics, summarizes the operating characteristics ot over 100 dial-a-ride and shared-ride taxi systems, and presents specific guidance regarding target market systems for the elderly and handicapped. Volume II; Part 4, SCRAPS, contains detailed information on Service Components, Regulations, Analytical Procedures, and Sources to complement the planning and design process. Part 5 contains Appendices, including references, a glossary, summaries of individual system characteristics and other technical material.

17. Key Words	18. Distribution Statement
Paratransit, Dial-A-Bus, Shared-Ride Taxi, Guidelines, Planning, Design, Operations, Implementation, Evaluation, Pitfalls, Operating Characteristics, Target Market System (cont.)	Vehicles, Maintenance, Marketing Models, Labor, Funding, State-of-the-Art, and Future Growth. DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VIRGINIA 22161

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PREFACE

The Paratransit Handbook has been developed as a guide to the implementation of paratransit systems. Public officials, planners, and system operators considering paratransit alternatives should find this handbook an aid in the planning, design, implementation, operation, and evaluation of these services.

The Paratransit Handbook was prepared by SYSTAN Inc. of Los Altos, California under contract No. DOT-TSC-1392, and represents the first major step toward a comprehensive planning handbook. It is anticipated that this version of the Handbook will be updated and revised in accord with (1) research results designed to fill information gaps, (2) new paratransit systems experience, and (3) feedback on organization and content from users of this document. For the purposes of initiating feedback a mailable comment sheet has been incorporated at the end of section 3. (See Table of Contents: Comments Please!) Any additional information and comments will be greatly appreciated. Initial updates to the Handbook will be found in the Pocket Parts at the rear of each volume.

Dr. Roy E. Lave of SYSTAN has served as project manager for the current contract, while Dr. John W. Billheimer was the project leader responsible for developing the Handbook. Other SYSTAN participants were Dr. Paul Jones, Ms. Carolyn Fratessa, Mr. Michael Holoszyc, and Ms. Debra Newman. Ms. Catherine Pearsall and Ms. Carole Parker helped to organize and edit the final document. Mr. Paul Bushueff of the Transportation Systems Center acted as technical monitor for the U.S. Department of Transportation.

In addition to the participants listed above, more than 200 members of the paratransit community contributed to this effort by providing system data and insights regarding the problems and pitfalls encountered in planning, implementing, and operating paratransit systems.

NOTE: In draft form this two volume report was entitled "Paratransit Integration Guidelines."

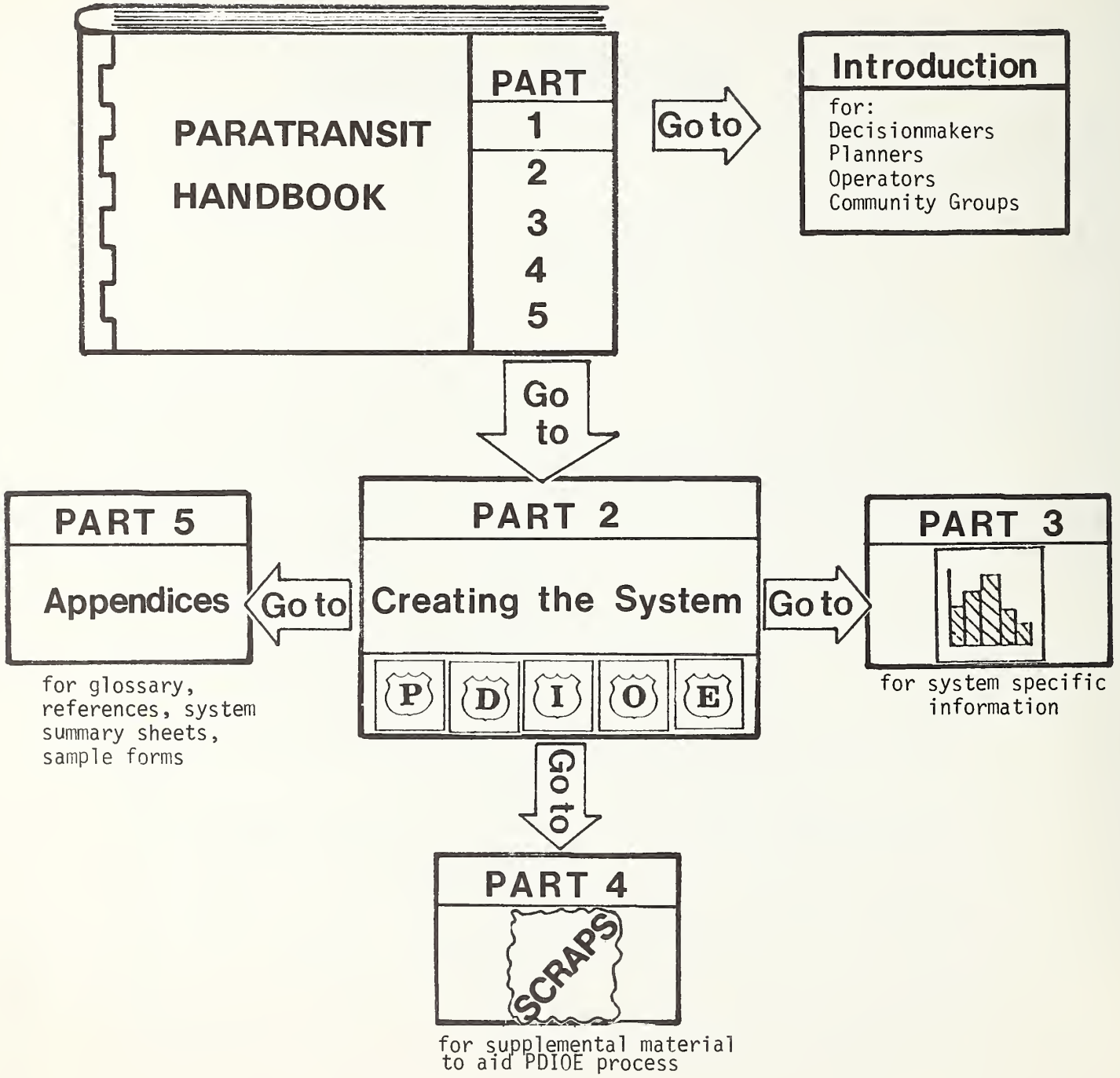
USER'S GUIDE

This Handbook consists of five parts, in two volumes, with blue divider sheets designating each part:

Volume I - 1. Introduction;
2. Creating the System;
3. System Characteristics;
Volume II 4. SCRAPS; and
5. Appendices.

Their contents are summarized below and their relationships illustrated in exhibit at left.

PART	TITLE	CONTENTS
Volume I 1	Introduction	Summary statement of para-transit state-of-the-art
2	Creating the System (PDIOE)	Prescriptive guidance for accomplishing Planning, Design, Implementation, Operations and Evaluation
3	System Charac-teristics	System-Specific Information
Volume II 4	SCRAPS	Service Components, Regula-tions, Analytical Procedures, and Sources
5	Appendices	References, glossary, system summaries and technical material

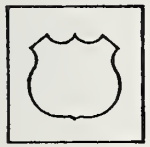

PARATRANSIT HANDBOOK
PART
1
2
3
4
5
Go to
Introduction
for:
Decisionmakers
Planners
Operators
Community Groups
Go to
PART 2
Creating the System
P
D
I
O
E
PART 5
Appendices
Go to
for glossary, references, system summary sheets, sample forms
Go to
PART 3
for system specific information
Go to
PART 4
SCRAPS
for supplemental material to aid PDIOE process

Volume I

GETTING STARTED - Part 1: The Introduction

The Introduction is intended for a wide audience: decisionmakers, planners, operators and interested community groups. It is designed to be used in several ways:

- An overview of transit trends, the spectrum of services available and the paratransit role which has developed.
- An update on the state-of-the-art in paratransit.
- A decisionmaker's guide to assess whether paratransit is attractive for his/her community and whether to proceed into the sketch planning stage.



CREATING THE SYSTEM - Part 2

Within Part 2 the five stages of system development: planning, design, implementation, operation and evaluation (PDIOE), are subdivided into sections and divided visually by a shield symbol in the upper page corner as noted below. This scheme allows easy access to different sections of system development stages.

Planning
Section 2

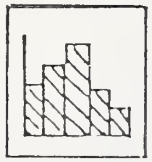
Design
Section 3

Implementation
Section 4

Operation
Section 5

Evaluation
Section 6

Each section begins with an Overview, followed by Procedures, and ends with a review of Pitfalls to be avoided.



WHAT EXISTING SYSTEMS ARE LIKE - Part 3: System Characteristics

Part 3 on System Characteristics is divided into four sections: 1 - Introduction, 2 - Measurements of System Characteristics and System Performance, 3 - General Market Systems, and 4 - Target Market Systems. These last two sections each cover two generic types of systems: dial-a-bus and shared-ride taxi and are symbolized as follows:

General Market

Dial-A-Bus

Shared-Ride
Taxi

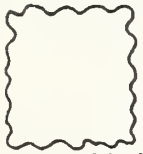
Tarket Market

Dial-A-Bus

Shared-Ride Taxi

Operational data from existing systems are summarized for each of the categories listed above, and characteristics and system profiles are developed. In addition, any system development considerations which are unique to target market service are discussed within Section 4.

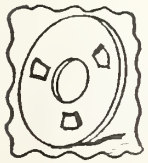
Volume II



SCRAPS - Part 4

SCRAPS, identified by a ragged-edged symbol, consists of the 8 sections listed below and contains detailed information which is supplemental to the PDIOE process.

Vehicles and Maintenance



Computerization of DRT Systems

Communication Systems and Equipment

Marketing and Customer Information

Analytical Procedures and Tools

Labor

Funding

Future Growth of Paratransit

AT THE BACK - Part 5: Appendices

The Appendix material consists of references; a glossary of terms; a system inventory and system summary sheets; alternative paratransit systems; detailed model attributes; Federal policies; forms and surveys used in existing system development; and future paratransit plans.

WORKING BACK AND FORTH

Those parts of the Handbook which follow Part 2, Creating the System, are intended as reference material to fill in specific information needs which may arise while working through different stages of system development. They may also be used independently as a source of state-of-the-art material on specific subject matter; e.g., statistical profiles of existing systems (Part 3: System Characteristics), computerization (Part 2: SCRAPS), sample operating forms (Part 5: Appendix).

To facilitate the use of these sections, symbols are sprinkled throughout the Handbook, particularly within Part 2 Creating the System, indicating to the reader where more detailed information is available if needed. For example:

2.2.5 refers the reader to a specific subsection (2.2.5) within Planning, in Part 2: Creating the System.

4.1 refers the reader to Operational Data Section 4.1 on Target Market systems in Part 3: System Characteristics

refers the reader to communication systems in Part 4: SCRAPS

refers the reader to Appendix 4, System Summary Sheets in Part 5: Appendices

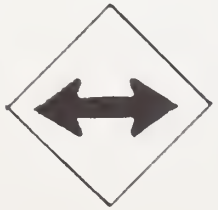
THE HIGHLIGHTERS

One group of symbols appear within the text to highlight recurring items or help locate particular types of information:

The Pitfall occurs throught the PDIOE process and elsewhere when necessary.

The Checklist occurs whenever material can be conveniently arranged for ready reference.

The Checkpoint means stop and review the situation.



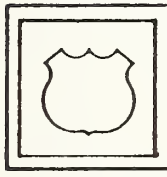
The Decisionpoint indicates that action is required before proceeding to the next stop.

TABLE of CONTENTS

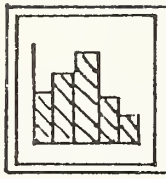
VOLUME I - PARTS 1 - 3

PART 1: INTRODUCTION

SECTION:

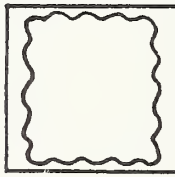


PART 2: CREATING THE SYSTEM



PART 3: SYSTEM CHARACTERISTICS

VOLUME II - PARTS 4 & 5



PART 4: SCRAPS

PART 5: APPENDICES

PART 4 SCRAPS

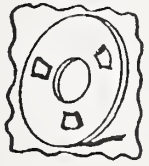
(Service Components, Regulations, Analytical Procedures, and Sources)

KEY

This section of the Handbook contains detailed information on specific topics of interest to planners, designers, operators and decisionmakers attempting to develop an integrated paratransit system. Topics covered in this section include:

1.0 Vehicles

2.0 Computerization of DRT Systems



3.0 Communication Systems and Equipment

4.0 Marketing and Customer Information

5.0 Analytical Procedures and Tools

6.0 Labor

7.0 Funding

8.0 Future Growth of Paratransit

1.0 VEHICLES

1.1 Vehicle Characteristics

A variety of vehicle sizes may provide paratransit, ranging from passenger automobiles to full-size buses. Vans, small buses and manufacturers' conversions of motor homes are also used. Automobiles have passenger seating capacities of up to five persons, while vans and converted vans can generally seat from 10 to 15 passengers. The distinction between converted motor homes and small buses is intended to differentiate those vehicles whose motor home bodies were merely modified for transit use from those vehicles primarily designed for use as buses. Small buses and converted motor homes generally seat between 15 and 25 passengers. Finally, regular- and mid-sized buses are those used for conventional transit operations, and generally seat 30 and 50 passengers respectively. Most paratransit services, with the exception of subscription services, do not generate sufficiently high load factors to require large vehicles. The advantages and disadvantages of the various vehicle types are tabulated in the exhibit on the following pages.

Automobiles, vans and regular buses have large markets for uses other than demand-responsive transportation, and these industries have matured to the point where a small number of manufacturers produce vehicles with a proven reputation for reliability. The market for small buses has expanded only during the past few years. Consequently, many manufacturers have recently entered this market with new or adapted vehicles.

The large number of vehicle alternatives complicates the vehicle selection process. While it is likely that the number of manufacturers will eventually stabilize, in the short run there is the risk of commiting to a manufacturer who may not remain in the field. Moreover, many vehicles have not performed well. A July 1975 report by the U.S. General Accounting Office for the Secretary of Transportation stated that "many of the transit system grantees were having problems procuring small buses and many small buses purchased with federal funds were not reliable and have been or will be replaced after a few years use..." (Reference 238). Two reports have been compiled which evaluate the small transit vehicle models available (References 234 and 240). There have been no attempts, however, to rate the different vehicles and no consensus regarding the performance of different vehicles has been reached. Operators contemplating the purchase of a specific vehicle should contact past and current users of the vehicle before making a commitment.

The tables on the following pages list vehicle characteristics that have been compiled from several sources, as noted. These sources can be checked for additional information on a particular vehicle. Due to the number of suppliers, the diversity of manufacturers and the relative ease and frequency with which many manufacturers enter and leave the industry, this list should not be considered complete nor as an endorsement of the products or firms listed. Potential purchasers of vehicles are urged to survey all production sources, both included and inadvertently omitted from this compilation, to review in detail the quality of the equipment and to obtain firm leads to users who have on-the-road experience with their equipment.

1.1

VEHICLE CHARACTERISTIC SHEETS

VANS AND VAN CONVERSIONS

Vans & Van Conversions	Length (ft)	Seats	Propulsion	Reference	Manufacturer
Carpenter Cadette CV-1808	19	12-26	Gas	232, 234, 240	Carpenter Body Works, Inc. Mitchell, Indiana 47446
CV-2100	21	12-26	Gas	232, 234	
CV-2304	23	12-26	Gas	232, 234	
Chevrolet Sportsvan	17	12	Gas	234, 240	Recreation Industries, Inc. P. O. Box 3143 5232 Tod Avenue, S.W. Warren Space Center Warren, Ohio 44485
Transporter	15		Gas	234	
Model 110					
Daimler Benz					Damiler-Benz AG 7000 Stuttgart- Untertuerkheim 60 Postfach 202 Germany-West (test state only)
Model LF-306 (144V)	16.5	10	Electric	236	
(180V)	15	10	Electric	236	
Dodge Maxivan	18	12-15	Gas	232, 237, 240	Recreation Industries, Inc.
Far West Coach	18	16	Gas	233	Far West Coach, Inc. 18370 Pacific Street Fountain Valley, California 92708
Ford Club Wagon (Econoline)	16	12	Gas	232, 233, 234	Ford Motor Company
Fortivan	DOV*	up to 16	Gas	232, 233, 234, 241	Coach and Equipment Sales Corp. Post Office Box 36 Penn Yan, New York 14527
GMC 3300 Series	29	33	N/A	233	General Motors Corporation

* DOV: Depends on Vehicle
N/A: Not Available

Vans & Van Conversions (cont.)	Length	Seats	Propulsion	Reference	Manufacturer
Mercedes Benz Model 0309D	20	19	Diesel	232, 233, 234, 236, 240, 241	Mercedes Benz of North America, Inc. One Mercedes Drive Montvale, New Jersey 07645
Skillcraft Dodge Conversion	18	12-15	Gas	233	Chrysler
Superior Conserva-Ride I	17	10-13	Gas	232, 234, 241	Sheller-Globe Corporation Superior Division 1200 East Kibby Street Lima, Ohio 45802
Superior Conserva-Ride III	17	12	Gas	232, 240	
Target Industries	18	15	Gas	233	Target Industries, Inc. 8 Heywood Street P.O. Box 3898 Springfield, Massachusetts 01101
Travco 74 Dodge Van	18	12	Gas	240	PRF Industries Warren, Michigan
Volkswagen Van	N/A	9	Gas	232	Volkswagen

SMALL BUSES

Small Buses	Length	Seats	Propulsion	Reference	Manufacturer
Alsthom/RATP Electrobus Model A-21	24	20	Electric	236	Régie Autonme des Transports Parisiens 53 ter, Quai des Grands-Augustins, 75 Paris 6, France
Battronic, Model 1	19	15	Electric	232,234,236,241	Battronic Truck Corporation 3rd and Walnut Streets Boyertown, Pennsylvania 19512
Battronic, Model 2 (Suburban)	18	10	Electric	232,234,236,241	
Battronic, Model AMV147LB	20	22	Electric	232,234,236	

1.1

Small Buses (cont.)	Length	Seats	Propulsion	Reference	Manufacturer
Wayne Bussette	18	13-17	Gas	233, 236	Wayne Corporation P. O. Box 1447 Industries Road Richmond, Indiana 47374
Collins Industries Super Bus Collins Industries Econ-O-Bus	N/A N/A	16-20 16-20	N/A N/A	232 234	Collins Industries
Crompton Leyland P 190/100 MP26 Electric City Bus	22	9	Electric	236	Crompton Leyland Electric Cars Ltd. Crown Avenue Dukestown Tredegar, United Kingdom
Flxible, Flxette	21	19-23	Gas	232,233,234,236, 241	The Flxible Company (Flxettes) 970 Pittsburgh Drive Delaware, Ohio 43015
Flxible, Model 31 FT Transit Flxible, Model 35 FT Transit	31 35	35 45	Diesel Diesel	236 236	The Flxible Company Loudonville, Ohio 44842
Fortibus Commuter Model CB Fortibus Commuter Model XB	19/20 20/21	20 20	Gas Gas	236 232, 236	Coach and Equipment Sales Corporation Post Office Box 36 Penn Yan, New York 14527
Microbus (made to specs)	22-26	12-30	N/A	233	Microbus Corporation 11806 Woodruff Avenue Downey, California 90241
Minibus, Model MBS	24	20	Gas/Diesel	232, 233, 234, 236,241	Minibus 9301 Stewart and Gray Road Downey, California 90241
Mitsubishi Electric City Bus Mitsubishi Fusco Model B623B	31 26	26 33	Electric Diesel	236 236	Mitsubishi Motors Corporation 33-8, Shiba 5 chome Minato-ku Tokyo, Japan

Small Buses (cont.)	Length	Seats	Propulsion	Reference	Manufacturer
Steyir City Bus Model S	17	10	Gas	236	Steyr-Daimler-Puch AG Werke Wien A-110 Vienna, 2 Haidequerstr 3 Austria
Superior Pacemaker	22	9	Gas	232	Sheller-Globe Corporation Superior Division (Pacemaker) 1200 East Kibby Street Lima, Ohio 45802
TransCoach	22	21	Gas	233, 236, 240	TransCoach Division Sportscoach Corporation Chatsworth, Connecticut
TransCoach with lift	22	14	Gas	233, 240	
Twin Coach TC/25	25	25	Gas/Diesel	232,234,236,241	Twin Coach Division Highway Products 789 Stow Street Kent, Ohio 44240
Twin Coach TC/31	28	31	Gas/Diesel	232, 236, 241	
Unibus Model MK-3A	23	24	Gas	236	Unibus Corporation 6020 Indian Line Malton, Ontario, Canada

MOTOR HOME CONVERSIONS

Motor Home Conversions	Length	Seats	Propulsion	Reference	Manufacturer
Apeco MRB	22	16-19	Gas	232, 234, 241	Apeco Transit Division White Pigeon, Michigan
(Airstream) Argosy Compact					Argosy -- Airstream
Bus Model CB20	20	15	Gas	234, 236, 240,241	Ohio Building
Bus Model CB22	22	19	Gas	236,	Sidney, Ohio 45385
Bus Model CB24	24	21	Gas	236,	
Bus Model CB26	26	25	Gas	236,	
Collins Industries Motor Home	N/A	8-10	N/A	232	Collins Industries

1.1

Motor Home Conversions (cont.)	Length (ft.)	Seats	Propulsion	Reference	Manufacturer
FMC E&H Transporter	30	27	Gas	232, 234, 236	FMC Corporation 333 Brokaw Road Santa Clara, California 95052
Grumman 23 Passenger	23	23	Gas	232, 233, 234, 236, 240, 241	Grumman Allied Industries, Inc. 600 Old Country Road Garden City, New York 90241
Pace Arrow People Mover	20	15	Gas	234, 241	Pace Arrow, Inc. Fleetwood Enterprises Ontario, California
Superior Conserv-a-Ride II					Sheller-Globe Corporation Superior Oivision (Conserv-A-Ride II) 1200 East Kibby Street Lima, Ohio 45802
Model 2000	20	16	Gas	234, 241	
Model 2200	22	20	Gas	234, 240, 241	
Model 2500	25	27	Gas	234, 241	
UTOC Club Car (Rek-Vee Toronto Go-Bus)	24	17	Gas	232, 233, 234, 236, 240, 241	Urban Transportation Oevelopment Corporation Yonge Eglinton Centre 20 Eglinton Ave. West Toronto, Ontario, Canada
Winnebago Series Bus	22	19	Gas	233, 234, 236, 240, 241	Winnebago Industries, Inc. Forest City, Iowa 50436

1.2 Suggested Vehicle Specifications

Based on the Canadian experience, the following checklist outlines suggested items to include in vehicle specifications.

VEHICLE SPECIFICATION CHECKLIST

1 ENGINE

Number of cylinders, displacement
Horsepower and torque[1] at rated speed
Fuel type
Carburettor
Oil filter
Exhaust system
Fuel tank: location and capacity
Block heater[2]
Engine governor[3]

1 Curves of power and torque as functions of engine rmp should be requested.

2 Especially if buses are to be garaged or left outside for long periods during winter.

3 Necessary if over-the-road driving occurs and occasional drivers are employed.

2 DRIVE-TRAIN

Front/rear wheel drive
Transmission type and gear ratios (automatic preferred)
Clutch: type, if manual transmission
Brakes: service, type, size, brake-circuits, back-up systems
Differential: type and ratio
Non-slip differentials

3 STEERING & SUSPENSION

Steering ratio
Power-steering (if necessary)
Springs, capacity
Shock absorbers
Wheels and tire sizes
Front suspension type and capacity
Rear suspension type and capacity

4 ELECTRICAL SYSTEMS

Alternator, type and power
Battery, size and location
Starter motor, type and power
Overload protection
Type of wiring and printed circuits
Lights - location, size, number required by safety regulations

5 EXTERNAL DIMENSIONS

Wheelbase
Overall length
Overhang; front and rear
Overall width
Wheel trend, front and rear
Overall height
Weight
Turning radius and diameter (both wheel track and outside bumper)

6 INTERNAL DIMENSIONS

Inside width, wall to wall
Centre aisle, with hip level
Headroom over centre aisle
Passenger step height from ground *
Floor height from ground
Seat envelope diagram*

7 EXTERIOR FINISH

Construction type, member size and spacing
Panel arrangement, material and finish
Insulation
Painting
Lettering*
Destination signs*
Corrosion resistance

8 INTERIOR ARRANGEMENTS

Interior Panels
Number of seats
Seating arrangement flexibility*
Seat form and finish
Headrest
Footrests
Ashtrays
Luggage racks
Parcel racks
Floor covering[4]
Radios and tape players
Stanchion and handrail - locations and dimensions *

4 Carpets may be recommended to reduce noise levels; rubber mats may be necessary with salt.

9 TEMPERATURE AND LIGHT CONTROL

Front heater, capacity and location
Rear heater, capacity and location
Window defrosters for front, side and rear windows
Air-conditioning system
Number and size of windows
Window glass material, tinting
Interior lighting *
Passenger window opening system

*Special Target Market Considerations

1.2
1.3

VEHICLE SPECIFICATION CHECKLIST (Continued)

10 SIGNALS AND SAFETY FEATURES

Exterior lighting*
Direction signals
Fire extinguisher and axe
Shoulder belts
Safety padding
Bumper types and sizes, front and rear
Jack type and spare wheel location
Wheelchair locks*

11 INSTRUMENTATION AND CONTROL

Driver instrument panel
Driver controls
Windshield, size and arrangement
Windshield wipers
Mirrors
Driver's seat - dimensions, adjustment, materials

12 ENTRANCE AND EXIT

Steps, number and sizes*
Ramps (or hydraulic lift) for handicapped passengers*
Door-opening mechanism*
Passenger signal systems*
Safety exit

*Special Target Market Considerations

(Source: Adapted from Canadian Dial-A-Bus Manual, Reference 4)

1.3 Current Research Programs

1.3.1 UMTA Paratransit Vehicle Program

In order to correct many of the taxi vehicle disadvantages, Congress in 1973 provided UMTA with funding "for the development of an improved efficient, quiet, non-polluting taxi." Consequently, UMTA released a Request for Proposal in May 1974 calling for the construction of a prototype vehicle to meet various design specifications. These included the provision of wheelchair access, a minimum capacity of one wheelchair passenger and two regular passengers, stringent air pollution standards, and the ability for passengers to enter and exit easily with other passengers already on-board. Since this vehicle was envisioned to provide services other than conventional taxi service (such as shared-ride taxi service), it was called the "paratransit vehicle."

In March 1975, contracts were awarded to AMF, Inc. of Santa Barbara and Steam Power Systems of San Diego. These companies both built vehicles with Rankine steam cycle engines in order to meet the specified pollution requirements. The vehicles were delivered in April 1976, and between June and September, they were displayed in New York's Museum of Modern Art as part of an exhibition entitled "The Taxi Project: Realistic Solutions for Today." Three European-built vehicles, built by Volvo of Sweden, Volkswagen of West Germany and Alfa-Romeo of Italy, were also included.

After the exhibition, the two American prototypes were returned to their manufacturers in order to replace the steam engines with conventional gasoline engines. The modified vehicles were tested and evaluated by DOT's Transportation Systems Center (TSC) through an independent road-testing laboratory.

These tests and other assessments resulted in the conclusion that a new vehicle fully-designed around a conventional engine was required. To some extent, this

reflected a shifting national emphasis on energy conservation rather than air pollution reduction. In addition, the prototype paratransit vehicles had many special features that would make them expensive to manufacture, even in large quantities. UMTA's current plans are to solicit two or three new contractors to each design and build three new prototype vehicles by the fall of 1979. These vehicles would then be demonstrated in actual operations. UMTA hopes to engage some if not all of the major U.S. automobile manufacturers in the proposed future work.

1.3.2 UMTA Diesel Taxi Demonstration

A second current UMTA research project involves the demonstration of taxicabs equipped with diesel engines in New York City. Diesel engines are reported to be more fuel-efficient, more reliable, and less polluting than gasoline engines. However, they are also noisier, and have less power for acceleration.

Between October 1976 and April 1977, 66 gasoline engine and 66 diesel engine taxicabs were put into revenue service under the direction of the Metropolitan Taxicab Board of Trade. They are to be used until they accummulate 120,000 miles or 8,000 service hours and then sold, which is scheduled to require slightly over two years. The most recent data indicates that the diesel vehicles have averaged 14.7 miles per gallon, compared to 9.7 miles per gallon for the gasoline vehicles. Over a 120,000 mile life with gasoline and diesel fuels costing 70 cents per gallon, this results in a net fuel savings of $2,946 per vehicle, which more than makes up the present cost difference between gasoline and diesel engines:

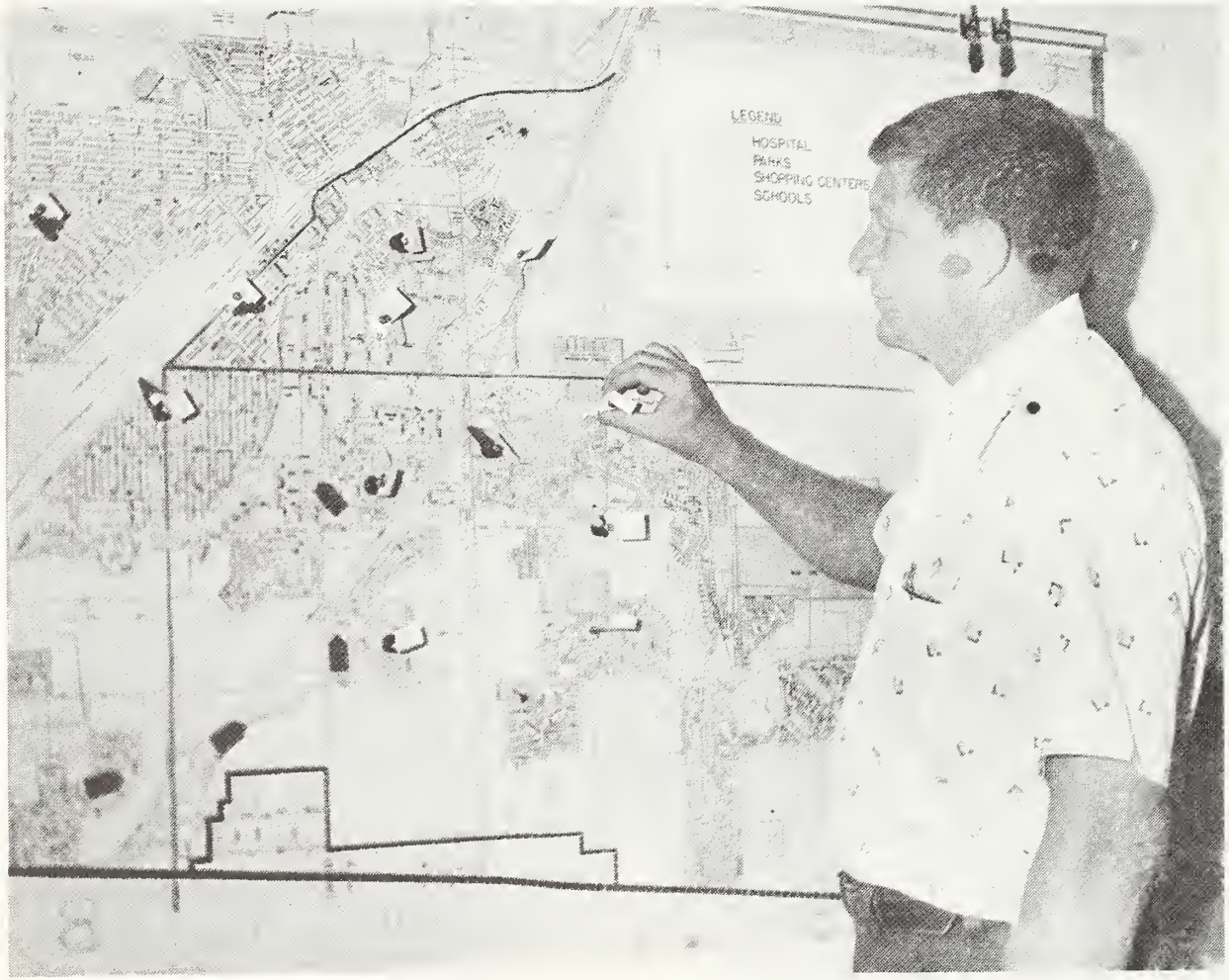
$$\left(\frac{120{,}000 \text{ miles}}{9.7 \text{ m.p.g.}} - \frac{120{,}000 \text{ miles}}{14.7 \text{ m.p.g.}}\right) \times \$0.70/\text{gallon}$$

No major difference in maintenance costs has yet been detected.

1.3.3 UMTA Small Bus Project

In order to improve the small bus state of the art, UMTA initiated the Small Transit Bus Requirements Study in 1974. The project was the small bus equivalent to the Transbus program, which resulted in an advanced design for a full-sized bus. In March 1977, after surveying current small bus transit operations in the United States and examining future needs and requirements, a detailed set of specifications was developed. A 28-foot long by 96-inch wide standard vehicle seating 23 persons was recommended. A 22-foot length option was also recommended. The final specifications were developed to optimize small bus use in fixed-route services as well as for demand-responsive service.

UMTA currently has no plans to build prototype small buses, as was done in the Transbus program, but anticipates that small bus manufacturers will adopt the findings of the study in their designs. There is a general consensus that most of the features included in the developed specifications are already being incorporated in recent small bus designs.



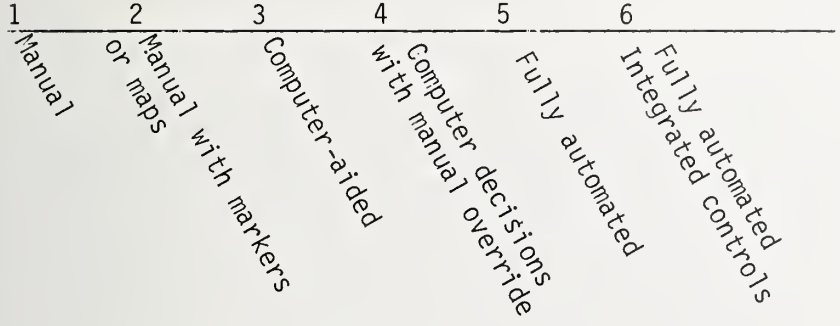
Sample Scheduler Map, Roseville, California Area Dial-a-Ride.

Source: Roseville Press Tribune

2.0 COMPUTERIZATION OF DRT SYSTEMS

2.1 Defining the Degree of Automation

Six "generations" of scheduling and dispatching have been identified based on the degree of automation used (Reference 38):



2.1.1 Manual System

Systems that manually schedule and dispatch services are usually small, target market services that are restricted to pre-arranged and/or subscription tours. As in the Syracuse, New York Call-A-Bus elderly and handicapped system, four to five buses are scheduled into 20-minute tours, available upon 48-hour notice. Typically, only one passenger-trip is served in a 20-minute period.

2.1.2 Manual System With Markers or Maps

This system combines manual controls with either voice or digital communications. The opposite exhibit displays Santa Rosa, California's map and marker scheduling system. Another good example is Tucson, Arizona's city-wide target market service. In this system calls are recorded on slips of paper and different markers are used to identify vehicles and pick-up and drop-off points on a service area map. Although this procedure appears somewhat frail and prone to human error, it has worked well for a large number of operators, once they become familiar with it.

2.1.3 Computer-Aided

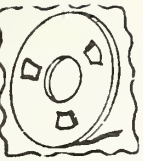
At this level of automation, the computer becomes a control aid for the dispatcher. Tours are stored manually to simplify the recordkeeping and scheduling process. Ann Arbor, Michigan implemented an "electronic map" computer system to aid in controlling 32 vehicles in a 13-zone area.

2.1.4 Computer Decision With Manual Override

These computer-assisted scheduling systems permit telephone operators to enter each service request into the computer system. Dispatchers can then select one tour from a limited number of alternatives presented by the computer. This computer option was in operation in Santa Clara County, California.

2.1.5 Fully-Automated

Fully-automated systems use algorithms to assign each request to a vehicle according to some objective function (e.g., minimizing ride and wait times). Street addresses of riders are fed into the computer and translated into coordinates, for selection of the most appropriate vehicle for the trip. While computers have proven to be more accurate than humans at scheduling vehicle arrivals, they do not always choose the best routes to minimize passenger travel time.



2.1
2.2

2.1.6 Integrated Computer Control

At this level of computerized dispatching and scheduling, the computer is able to coordinate transfers between fixed-route and other demand-responsive modes. More communication links can be provided, and riders may even "talk" directly to the computer to request service. It is also capable of reminding control center staff to call passengers just before pick-up to reduce vehicle wait times.

2.2 Control Room Use of Computers

2.2.1 Processing Requests

Requests for service can be transferred directly to a computer-ready format by the telephone operator taking the call. Each operator has access to an on-line terminal which is connected to the computer. Tour scheduling is simplified because requests and tour routes are stored in the computer file, enabling the scheduler to arrange incoming requests quickly according to desired pick-up time or location (if a zone assignment is being made).

(A) System Example: Ann Arbor

The Ann Arbor Teletran system consists of a combination of DAB and fixed-route service. As of late 1976, the DAB service consisted of up to 40 vehicles operating in as many as 13 zones. Although the system was operated in a many-to-many fashion, most passengers used DAB to travel to and from a fixed-route bus transfer point. Consequently, DAB buses arrived and left the transfer point at prescheduled times.

Since August 1975, request and tour processing have been performed under the control of a dedicated Data General Nova 820 minicomputer. A telephone operator records the trip request information and schedules the request on a tour identified according to zone and the time approaching or leaving the transfer point. The dispatcher reviews all tour lists before they are transmitted to drivers. Since the summer of 1977, when digital communications equipment was installed, drivers have received the tour lists automatically.

(B) System Examples: Regina and Calgary

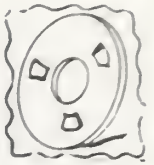
Limited application of the computer for only request processing have also been made in two Canadian DAB systems: Regina and Calgary. In Regina, advance and subscription requests are manually organized into tours and stored on computer. Drivers then receive lists of these tours each day before their run, and the control room dispatcher adds incoming immediate requests to these tours and submits the new information to drivers by radio. In Calgary, tours are manually scheduled but are stored on computer; lists are then retrieved from terminals located at central transfer points where DAB buses converge. Drivers follow a given tour list until returning to the transfer point, where they receive a new list.

(C) System Example: Los Angeles Yellow Cab Company

Between 1972 and 1977, when the company terminated operations, the Los Angeles Yellow Cab Company processed about 15,000 service requests per day by entering requests directly into the computer file through CRT terminals. The advantage of the processing was a reduction in the amount of paperwork required of the control room staff.

(D) System Example: European Systems

Two advance request processing systems have been tested in Europe. In Germany, a system called RETAX provides terminals (automatic destination selectors) at



bus stops; users record their desired destinations directly into these terminals. The trip request information is processed by a computer, which selects and dispatches the appropriate bus to the stop for which service is requested. In Sweden, the same concept is applied by using an adapted telephone as the requesting terminal (Reference 242).

2.2.2 Vehicle and Request Scheduling

At the heart of computerized vehicle and request scheduling is the scheduling algorithm, which makes it possible for the computer to automatically assign requests as they are received, to service tours. A complete description of service area streets and addresses must be stored in the computer. The current location of buses in the area must also be known for immediate service systems. The computer is instructed to follow any specific service goals or limitations. Theoretically, several tour route options will be given, resulting in better customer service and vehicle efficiency.

Computerized scheduling appears to be more effective for large DRT systems. In an immediate request, many-to-many operation, for example, a single scheduler can process from 10 to 20 buses in one service area. The increased efficiency of this system can reduce the number of schedulers needed.

When two or more schedulers will be used for one service area, it is best to divide the area into zones, with a separate scheduler and bus fleet for each zone. This system should not be used, however, when there is considerable interzonal travel requiring numerous transfers.

(A) System Examples

As of 1977, computerization of requests and vehicle scheduling had been implemented in only four locations; three of the four are no longer in operation.

(i) Davenport, Iowa. For a brief period in 1972, Roy Cab Company of Davenport, Iowa scheduled up to 20 shared-ride taxi vehicles by computer. However, the system which was used proved to be inadequate for handling peak-period demand, and the company reverted to manual scheduling.

(ii) Haddonfield, New Jersey. During the last year of the Haddonfield DAB demonstration, between February 1974 and March 1975, the DAB service was operated under a computerized request and vehicle scheduling system. Services terminated when the demonstration ended in March 1975.

(iii) Santa Clara County, California. Computerized request and vehicle scheduling of DAB service in Santa Clara County began in November 1974 and continued until May 1975. At that time, most DAB service was terminated. Those operations remaining had never been placed under computer control.

(iv) Rochester, New York. Computerized request and vehicle scheduling of DAB service began to be implemented in September 1975, and was operating full-time beginning in June 1976. In January 1977, vehicle dispatching was also done automatically, as tour directions were automatically sent to vehicles upon driver request. This system is still operating today.

2.2.3 Vehicle Dispatching

Computers can be used to send tour information directly to the driver. Digital communications equipment is ordinarily required; however, in advance scheduling systems, drivers can receive tour instructions at the start of the run, or can pick up printed tour listings at various points along the route.

Computerized vehicle dispatching can be used without computerized scheduling, provided the system uses digital communications equipment. The Ann Arbor system is one example.

(A) System Example: Rochester, New York

The Rochester DAB system combined computerized scheduling with a computerized dispatching system, using digital communications equipment for direct relay of information to the drivers.

2.2.4 Customer Information

Computers can directly aid the user in providing schedule information on existing paratransit operations. A research effort in computerized information is being undertaken as part of the Knoxville, Tennessee brokerage

COMMUNITY

RESPONSIVE

TRANSIT

CLEVELAND,

OHIO

demonstration. In that experiment, information on existing fixed-route buses, carpools, vanpools and social service agency transportation is being stored in a computer. Persons with travel needs will then be able to call a central location to request service and receive a computerized list of travel options in the area. This information will then be provided to the user along with instructions about how to use each mode (such as who to call in order to join a vanpool for that day).

2.2.5 Computerized Fare Determination

Traditional metered taxi fares, based on mileage traveled, cannot be considered for shared-ride systems. The taxi is unlikely to take the shortest route when there are several passengers to pick up and deliver. Neither is a flat fare system acceptable to the taxi operator, as it tends to discourage short trips and increase the number of longer, less profitable trips. One alternative to flat fares and mileage-based fares is a more complex fare system, worked out by on-board computers.

(A) System Example: Pittsburgh

The use of the computer for calculating taxi fares in shared-ride applications has been pioneered by the People's Cab Company in Pittsburgh in conjunction with Carnegie-Mellon University (Reference 160). This fare calculation system was implemented in the summer of 1977 for exclusive-ride trips, and is planned to be extended to include shared-ride services.

COMPUTER FUNCTIONS IN FOUR DRT SYSTEMS

SURVEY #	NAME	SERVICE TYPE	SERVICE AREA SIZE	POPULATION (or ELIG POP)	FLEET SIZE	COMPUTER FUNCTION (type)
121	Cuyahoga County, Ohio "Community Responsive Transit" (CRT)	TM/MIX	450	170,000	64	Address location, mgmt. information. (dedicated)
81	Rochester, New York "PERT"	GM/DAB	22.8	105,000	26	Address location, vehicle assignment, route determination, mgmt. information. (time-share)
80	Ann Arbor, Michigan "Dial-A-Ride"	GM/DAB	45	180,000	18	Storage retrieval of orders, assignment to tours. (dedicated)
122	Calgary, Canada	GM/DAB	3	15,000	15	Dispatching functions.

(Source: SYSTAN)

3.0 COMMUNICATION SYSTEMS AND EQUIPMENT

3.1 Customer to Control Center Link

An innovative system that is applicable to DRT checkpoint service (route and point deviation) was tested in Gothenberg, Sweden in 1976 by the Gothenberg Transport Authority (Reference 242). Each bus stop (checkpoint) served was assigned a number. Users calling the control center were instructed with tape recorded messages to dial the appropriate checkpoint number of the location where they wanted to be picked up. The answering unit then recorded this number, compiled it with other requests, and prompted a second taped message to acknowledge receipt of the request. Checkpoint service buses completed their tours at the control center, permitting the drivers to collect the printer listings of all checkpoints where service had been requested. Only one-directional service was necessary, since all passengers travelling in the opposite direction boarded at transfer points. Operationally, the system worked well, and although the Swedish application of this concept is limited, the system appears to have broader possibilities for DRT application.

Computerized number identification systems can automatically identify and record customer telephone numbers and addresses. This would be useful in centralized automatic billing operations, and may eventually be extended to allow customers to dial directly into the computer to request service.

3.2 Control Center to Vehicle Link

Imaginative improvisations have been used as temporary substitutes for on-board communications systems. In Rochester, New York drivers of radioless vehicles used pay phones to call the control center and receive tour instructions. In Syracuse, New York's advance request system, customers who wanted to cancel service were responsible for notifying the passenger to be picked up immediately before them of their change of plans.

3.3 Automatic Vehicle Monitoring

AVM systems, currently in the developing stage, may one day be able to monitor all types of vehicles and locate them spatially throughout a community. The ability to relay exact location information to the control center via visual displays would permit more efficient and coordinated scheduling and dispatching. The potential benefits of AVM applications could accrue to fixed-route bus systems and police departments, as well as some demand-responsive systems.

AVM systems would supplement rather than replace other control center/vehicle communications equipment. In computerized dispatching systems, this locational information could be input into the dispatching algorithm to increase its effectiveness and productivity. At present, computerized dispatching programs only estimate a vehicle's location within the service area, based upon its previous and next scheduled stops.

3.3.1 Types of Systems

(A) Signpost System

Electronic signposts placed throughout a service area detect coded vehicles as they come within their range, alerting dispatcher of selected vehicles' location.

(B) Radio Frequency Multilateration System

Measures time duration and direction of radio signals between vehicle and control center transmitting and receiving equipment, to determine vehicle location.

(C) Dead Reckoning System

On-board compass and odometer calculate vehicle location. As errors may compound over time, this method must be combined with a signpost system to periodically review computation and avoid significant errors.

3.3.2 Current Applications

AVM systems have been implemented in the United States and in Europe. European applications have focused on fixed-route transit, while American tests have mostly been used for police vehicles. In the first American AVM test on transit vehicles in Chicago during 1968, unreliable digital communications equipment prevented an adequate evaluation.

In 1971, UMTA tested one signpost and three radio frequency systems in Philadelphia. After considerable AVM technological advances, UMTA retested two signpost and two radio frequency systems during the winter of 1976-77 (Reference 245). UMTA presently plans to demonstrate one of these systems in Los Angeles during 1979 to control 200 fixed-route buses, 25 transit supervisor vehicles, and 25 police cruisers.

3.3.3 Future Potential

Automatic vehicle monitoring systems remain an extremely costly venture. One cost-benefit study found the cost of implementing such a system in a large metropolitan area ranged from $2.8 million for a system that only monitored taxis within a 475-square mile central area, to $13 million for a combined police and taxi vehicle monitoring system within the central area and fixed-route buses throughout the metropolitan region (Reference 246).

This same study documents only marginal cost-effectiveness for individual taxi operations, with these results varying according to the assumptions made regarding costs and benefits. In another scenario, where an AVM system is established to augment police surveillance, cost-benefit calculations can justify extending the system to include DRT vehicles. Thus far, AVM applications appear to only be appropriate for DRT systems if other users who can derive greater benefits from its use, such as police departments, decide to participate.

Presumably, costs will subside as this technology develops, but the practical DRT application of AVM systems still remains questionable. In most many-to-one and many-to-few situations, service areas are usually small enough that controllers have a fair idea of vehicle location, thus having little or no productive need for AVM. Many-to-many operations usually rely on checkpoints or control points where drivers report to the dispatcher, or permit only one address to be relayed at a time; the control center is continuously informed of the vehicle whereabouts, and has no need for an AVM system.

ITEMS TO BE COVERED IN SPECIFICATION OF A TWO-WAY RADIO SYSTEM

1 BASIC SYSTEM CONFIGURATION

- Modulation (usually FM)
- Radio Link (simplex/duplex)
- Frequency band (usually VHF/UHF)
- Frequency in MHz (allocated by Federal Communications Commission (FCC)
- Type of Selective calling System capacity
- Components of base and mobile units

2 BASIC RADIO SYSTEM SPECIFICATION

PRIMARY BASE STATION COMBINATION

- Type of mounting
- Type of control (local/remote)
- Type of squelch system
- Cabinet - construction characteristics
- Electrical supplies and voltage variation
- Carrier frequency (stability/adjustment)
- Antenna relay
- Instruments (test set/clock etc.)
- Transmitter power

SECONDARY BASE STATION COMBINATION (Integration)

- Same as primary base

SELECTIVE CALLING SPECIFICATIONS

- Type of signalling
- Adaptation to primary/secondary base capacity
- Actuating device (push button/dial)

ANTENNA & SUPPORTING STRUCTURE SPECIFICATIONS

- Radiation pattern and gain
- Band width
- Transmission line characteristics
- Responsibility for construction
- Lightning protection

MOBILE RADIO SPECIFICATIONS

- Number of units
- Type of control heads (handset/micropnone/headset)
- Frequency in MHz (FCC)
- Physical characteristics of radio unit
- Security arrangements
- Hardware installation
- Electrical supply (voltage, amperes)
- Transmitter power
- Turn on time (milliseconds)
- Carrier frequency stability (amount of drift permissible)
- Signalling decoders, type and pnysical characteristics

(Source: TDA, Canada, Reference 4)

3.4 SAMPLE COMPONENT COSTS FOR DEMAND RESPONSIVE SYSTEMS FROM KANSAS CITY DIAL-A-RIDE

(1) BASIC VOICE SYSTEM

FIXED EQUIPMENT

1 - C75RCB3105T repeater station, including duplexer, tone squelch disable, and four wire audio kit.

1 - T1602M D.C. remote console, including boom microphone, footswitch, tone squelch disable, line operated squelch kit, and four wire audio kit.

1 - TDF6120 7.5 db gain antenna, side mount kit, and 120' line kit.

FIXED EQUIPMENT COST $10,000.00

MOBILE EQUIPMENT

Each - T45RTA3BOOK mobile unit, 1 channel equipped, 5 channel capable, with time-out-timer and handset.

MOBILE EQUIPMENT COST . . . . . $ 1,825.00

BASIC VOICE SYSTEM COST $19,125.00
(including all fixed equipment and five mobile units, installation and one year's maintenance)

(2) MODAT SYSTEM *
(Add to Voice System)

FIXED EQUIPMENT

1 - T1530C base logic unit with interface cable and acknowledgement.

1 - TDN6111AD line printer with ribbon and paper.

1 - THN6172 display cabinet and chassis with encoder, ID and emergency modules, power supply, displays, master reset, and automatic roll.

TOTAL FIXED EQUIPMENT COST . . . . . $ 9,000.00

MOBILE EQUIPMENT

Each - T1528 ID and call modules with footswitch and filter . . . . . $ 1,000.00

TEST EQUIPMENT

1 - S1337 test set . . . . . $ 1,375.00

BASIC MODAT SYSTEM COST $15,375.00
(including all fixed equipment and five MODAT units, installation and one year's maintenance)

(3) ALTERNATIVE SELECTIVE CALL SYSTEM
(Add to Voice System)

FIXED EQUIPMENT

1 - E08ENC0036L 36 call paging encoder with cable . . $ 500.00

MOBILE EQUIPMENT

Each - Q132 transit control head with selective call decoder . . . . . $ 450.00

SELECTIVE CALL SYSTEM COST $2,750.00
(including fixed equipment and five selective call units)

(4) TELEPRINTER SYSTEM
(Add to Voice System)

FIXED EQUIPMENT

1 - 01012 printer control terminal with interface cable

1 - DDN6042 video data terminal

1 - D1Q05 monitor teleprinter

25 - DDN6001 teleprinter paper rolls

FIXED TELEPRINTER EQUIPMENT COST $19,690.00

MOBILE EQUIPMENT

Each - 01000 mobile teleprinter . . . . . $ 1,620.00

TEST EQUIPMENT

1 - Q1550 PCT test set

1 - SLN6387 digital logic probe (terminal)

1 - SLN6395 digital logic probe (printers)

TEST EQUIPMENT COST . . . . . $ 2,642.00

BASIC TELEPRINTER SYSTEM COST $30,432.00
(including all fixed equipment and five teleprinters, installation and one year's maintenance)

* Motorola Data System

(Source: Huron River Group, Reference 44)

4.0 MARKETING AND CUSTOMER INFORMATION

4.1 Complete Marketing Package Proposed by DAVE Systems, Inc. for Fairfield, California

The marketing program outlined below and the promotional materials which follow were proposed by DAVE Systems, Inc. for the Fairfield, California DART System.

4.1.1 Elements of Marketing Strategy

(A) Newspaper Advertisements

Newspaper ads will be run on a weekly basis to keep DART in the eye of the community. Newspaper advertising is low cost and is an effective means of advertising. Ads will be developed in conjunction with holidays and seasons of the year, as well as ads that provide information to the public. Information to the public will include : what is DART; who is it for; transfer information to Vaca Valley Bus Lines, etc.

(B) Vehicle Displays

Vehicle displays at J.C. Penney's, K-Mart, the downtown area, etc. will be scheduled on a bi-weekly basis for July, August and September. After that, a monthly display will probably be adequate. This type of public contact provides the ultimate in public involvement, and makes your system very real to the people that are contacted.

(C) News Releases

News releases will be provided to the DAILY REPUBLIC as often as possible. News stories are not only free but also provide the visibility of the system that is so important.

(D) Comment Cards

Each driver will distribute and collect two comment cards per shift. Approximately 10 to 12 cards will then be returned daily. These cards are then analyzed to evaluate areas of service that can be changed or improved. Any customer reporting negative comments will be personally contacted to try to resolve the complaint.

(E) Service Organization Contact

Since service organizations are the hub of the business community, we feel it is important that the Regional Manager belong to one of the service clubs in Fairfield. This will provide an opportunity for increased awareness of DART and result in many cooperative community efforts. Also, a Chamber of Commerce membership will be maintained.

(F) Newcomer Contact

Liaison with the Newcomer service will be established and maintained in order to be sure they have adequate transit information for new residents. They will be provided with brochures, complimentary tickets, phone stickers, etc.

(G) Telemarketing

Telemarketing will be scheduled on a quarterly basis. DART customers will be telephoned and questioned regarding their opinions of and recommendations for the service.

(H) Brochure Distribution

The DART brochure is one of your most effective marketing tools. Every household will receive a brochure every six months via inclusion with the water bills. This will be accomplished through coordination with City Staff. Additionally, DART brochures will be distributed throughout the community at strategic locations.

4.1

(I) Other Promotions

Holidays, seasons of the year, and milestones of the DART system will provide a never-ending list of ideas for promotional activities. On-board events will be utilized to stimulate DART/customer participation and enthusiasm. Promotional themes will also blend into the newspaper ads and direct mail efforts.

Promotions designed for certain ridership segments will be utilized to increase off-peak ridership. A senior citizen promotion joint effort with the Cut-N-Curl Beauty Salon, for instance, is the type of activity that benefits the system's community image, as well as provides rider incentive.

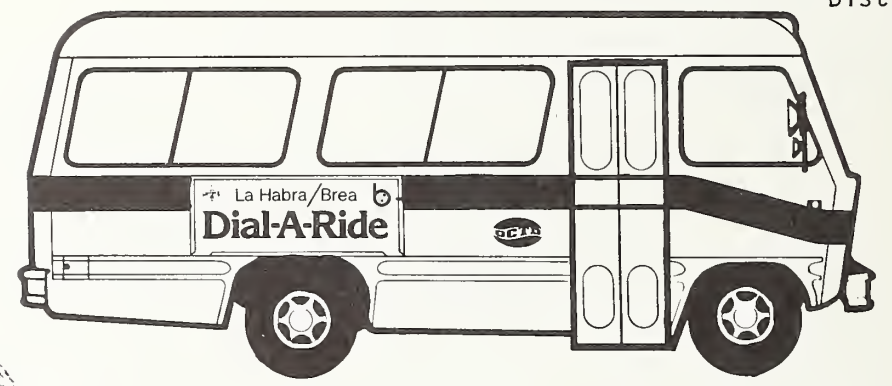
4.1.2 Budget

PROPOSED BUDGET FOR ONE-YEAR MARKETING PROGRAM

Fairfield DART System, 1977-1978

Employee	Rate	1. Newspaper Ads Hrs.	1. Newspaper Ads Cost	2. Vehicle Displays Hrs.	2. Vehicle Displays Cost	3. News Releases Hrs.	3. News Releases Cost	4. Comment Cards Cost	5. Service Org. Contact Cost	6. Newcomer Contact Cost	7. Tele-marketing Hrs.	7. Tele-marketing Cost	8. Brochure Distribution Hrs.	8. Brochure Distribution Cost	9. Other Promotions Hrs.	9. Other Promotions Cost	10. Liaison/ Program Coordination Hrs.	10. Liaison/ Program Coordination Cost
Marketing Consultant	8.00	48	384.			24	192.				8	64.	8	64.	96	768.	80	640
Drivers	3.50			60	210.													
Overhead @ 45%			172.		95.		86.					29.		29.		345.		288.
Travel/ Living			30.				30.					30.						60.
SUBTOTAL:			586.		305.		308.					123.		93.		1114.		988.
Fee @ 10%			59.		31.		31.					12.		9.		111.		99.
Outside Purchases:																		
Brochure Reprint														1050.				
Newspaper Contract			562.															
Service Club Membership									325.									
Ch. of C. Membership									95.									
Promotional Supplies																300.		
TOTAL:			$1207.		$336.		$339.	-0-	$420.	-0-		$135.		$1152.		$1525.		$1087.
																		$6201.

THE 50¢ PICK-ME-UP.



Good news travels fast.

NEED A LIFT?

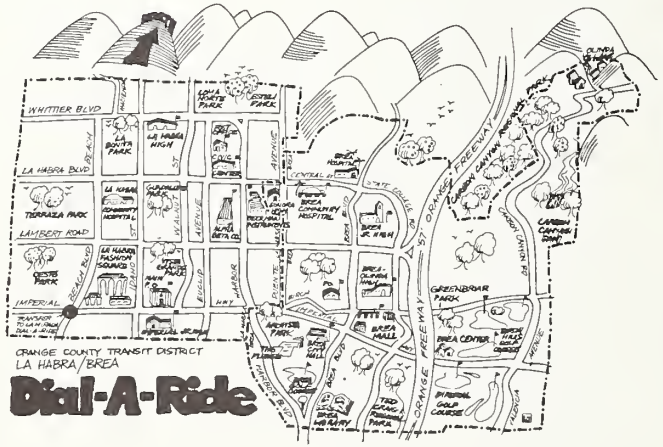
The most convenient transportation available anywhere is right in your own town.

We call it Dial-A-Ride. It's Orange County Transit District's telephone bus service. By simply phoning our special Dial-A-Ride number, you can go anywhere within the cities of La Habra and Brea, door to door, for just 50¢ one way.

Think of it. Door to door service, without the cares and costs of driving. You can take Dial-A-Ride shopping. To your dental appointment. To the matinee. Or just to a friend's house.

Find out for yourself how easy and convenient Dial-A-Ride can be. Use the coupon below for a free trial ride next time you're going somewhere in the La Habra/Brea area.

Dial-A-Ride. It's a terrific pick-me-up.



Ride Guide

A Bus Travel Map and Handbook for Orange County

Presented by the ORANGE COUNTY TRANSIT DISTRICT

February 12, 1978

I NEED A PICK-ME-UP.

Use this coupon for a free ride on the La Habra/Brea Dial-A-Ride. Just call the Dial-A-Ride phone number, 714/992-5130 (or 213/694-3723).

Coupon expires June 30, 1977.

Dial-A-Ride operates within the city limits of La Habra and Brea from 7 AM to 7 PM every day except Sunday and the six major holidays (New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving, and Christmas).

To go anywhere in the La Habra/Brea area, dial a ride at

714/992-5130
213/694-3723

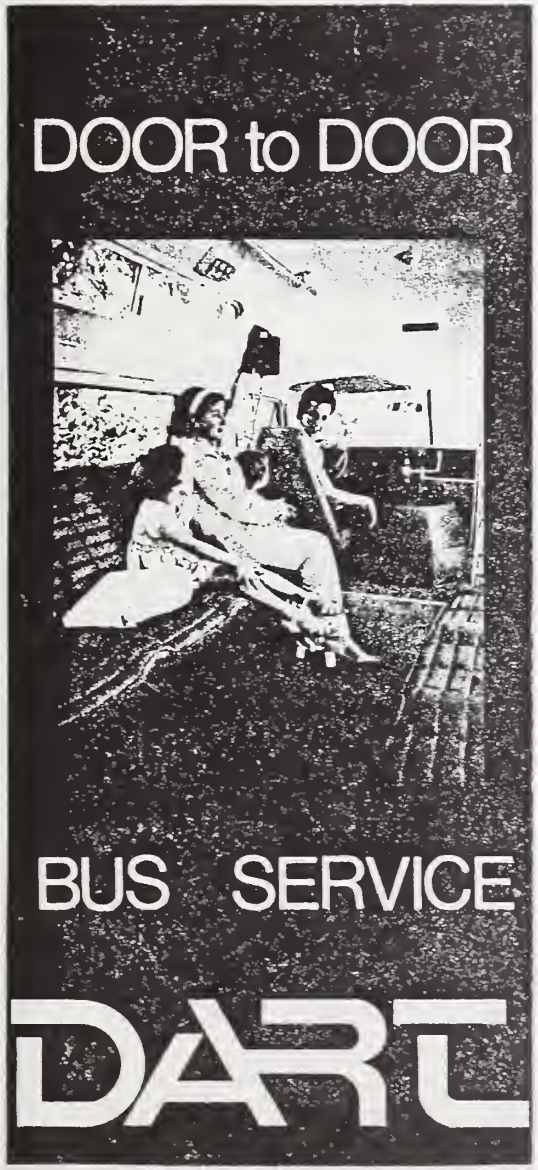
OCTD

We're here to get you there.

OCTD

We're here to get you there.

4.2.2 DART Brochure
Fairfield, California



What is DART

DART stands for Dial-A-Ride Transit. It is a new public transit service provided by the City of Fairfield for your convenience. DART combines the best features of bus and automobile to give you economic and also luxurious service.

You will ride in a DART bus that is air-conditioned and will seat 13 people in comfort with lots of leg room. There will be plenty of room for shopping bags or packages.

DART buses will not follow fixed routes, instead they will travel continuously throughout the Fairfield service area to respond to your calls which are radio dispatched to each driver from the DART Control Center.

For your convenience you can call to be picked up at special pick-up points marked with DART signs in specific locations such as City Hall, J.C. Penney, Handy Fair, and downtown Fairfield.

Save money—use DART instead of your car for: Shopping—work—doctor and dentist appointments—music and dancing lessons—club meetings—city meetings—sports events—the library—any time you have anywhere to go in the service area.

Call DART for information about special events scheduling and special service.

For further information, please contact

DART
Fairfield City Hall
Fairfield CA 94533

(707) 425 1031

How to use DART

Phone and tell us where you want to be picked up [*please use an address*], where you want to go, how many people will be going with you, your telephone number and your last name.

Your bus should arrive within approximately 30 minutes. Be ready when you phone, because the bus only waits 30 seconds after it arrives at your door and signals for you.

In order to provide transportation to handicapped persons one bus has been specially equipped with an electric wheelchair lift. If you require this service please tell us when you phone.

You may arrange for pick up at the same time every day (except Saturday and Sunday). If you want a daily ride at a specific time—such as to and from work—one call to us will arrange it.

Transfers to Vaca Valley Bus are free with the 50c fare. Transfers to DART for Vaca Valley Bus passengers are 15c.

Senior Citizens and handicapped persons travel for 25c on DART by showing a DART Card obtained at the City Hall. Half-fare passengers must purchase tickets at City Hall.

Children under 6 ride free when accompanied by a parent.

4.2.2 DART Brochure (back)
Fairfield, California

One-way fare

50¢

Seniors and handicapped persons qualify for half-fare with authorization card.

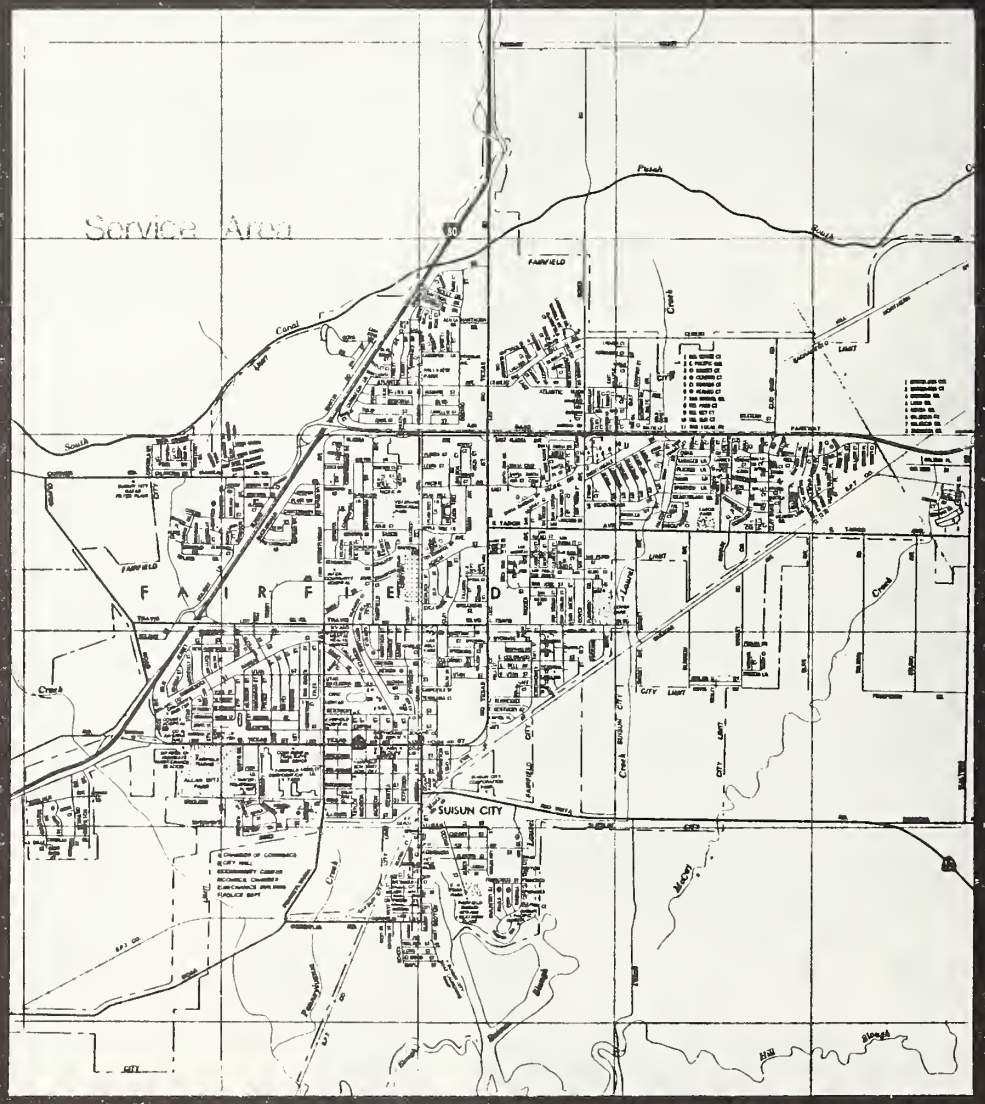
For service:

DIAL 429-2400

Hours of Operation

MONDAY through FRIDAY:
7:00 a.m. to 7:00 p.m.
SATURDAY:
9:00 a.m. to 5:00 p.m.
Sorry, no service on Sundays or Holidays.

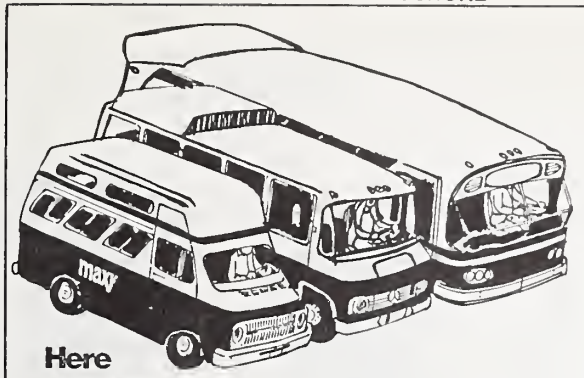
DART is brought to you by the City of Fairfield and operated by DAVE Systems, Inc.



Basic map reproduced by permission of the California State Automobile Association, copyright owner.

4.2.3 Promotional Material
Westport, Connecticut

MAILING BROCHURE



Bulk Rate
U.S. Postage
PAID
Advo System Inc.

Here comes the
maxytaxy
...and more
minny.

INSIDE OF MAILING BROCHURE

Specially designed maxytaxy gives elderly and handicapped a safe, comfortable ride!

Until now, the minny has been footling around town on its regular route carrying many of our senior citizens at half fare. And they love it! But there are many more elderly and handicapped neighbors of ours who need more specialized types of transportation . . . and here they come.

Three new ways to ride when you dial 226-9525.

1. If you're over 62 you can still ride the minny for half fare. Or, call 226-9525 for the shared-ride door-to-ride maxytaxy that takes you door to door for at least 25% off the regular zoned fare.

2. If you have some mobility limitations — for example, you use a brace or walker or are only partially sighted and you need someone with you when you travel, you can call the maxytaxy, pay half minnyfare (25¢ a ride), or use your minnypass — and your companion can come with you for the same price.

3. If you have a new or disability and are wheelchair-bound or have serious neuro-muscular or cardiac difficulties, for example, you can call one of our two maxytaxys which are equipped with wheelchair lift and tie-down mechanisms and a driver who is specially trained. There are six spare seats to accommodate companions. Please phone a day ahead for this service. The cost: 25¢ per trip or use your annual pass. Please get a statement from your doctor or public service agency certifying that your medical problem conforms to one of the categories we serve.

Evening maxytaxy picks up late commuters for half fare with minnypass!

If you arrive on any train after the 6:07 out of New York up to and including the night owl 11:05, you can use the maxytaxy and save up to 55% with your new commuter minnypass ($65 a year).

Friday and Saturday night maxytaxy saves you up to 55% with a minnypass!

Dial 226-9525 for door-to-door service Fridays from 7 pm to 2 am, Saturdays from 6 pm to 2 am.

Take the maxytaxy weekend evening special to the movies, to dinner and dances, to plays and parties, take it home from the station — take it all over town. Good way to send the baby-sitter home, too!

Call maxytaxy to deliver your packages!

We deliver anything that can be carried comfortably by one person — documents, small items left for repair, prescriptions, x-rays, reports — even if you're pining for a pizza or craving a quiche, give us a call. We charge the same for packages as for people — regular maxytaxy fare based on our zone fare structure. But there's an extra 50¢ charge if the maxytaxy driver has to leave the vehicle to make the pick-up and/or drop-off.

This means you can have a package delivered from downtown to almost anywhere in Westport for less than $1.75.

Exactly how does it work? Phone the Westport merchant or office from which you want the pick-up made to arrange for payment of the items you're ordering. Then call us at 226-9525, tell us what to pick up from where, and we'll make the delivery to you as long as you're in Westport.

For door-to-door service, dial maxytaxy: 226-9525

PACKAGE SERVICE

Here comes the
maxytaxy package delivery

to increase your business and save money.

BUSINESS CARD

maxytaxy
226-9525
Sunday - Thursday 6 am to 1 am
Friday, Saturday 6 am to 2 am

Westport Transit District
304 Post Road East, Westport, Ct.
For information call 226-7171

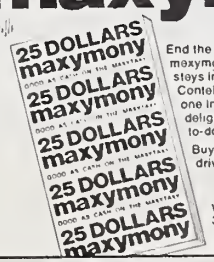
dial
226-9525
maxytaxy

PHONE STICKER

NEWSPAPER AD

give the gift that goes places...

maxymony!



End the gift-guessing game. Give a book of maxymony to everyone who commutes or stays in town, young or old. Costs only $20. Contains $25 worth of maxytaxy rides. Anyone in Westport can use the maxytaxy for delightful, economical dial-a-ride, door-to-door service, 7 days a week—*no tipping.*

Buy maxymony at our office or from any driver.

WESTPORT TRANSIT DISTRICT
304 Post Road East, Westport, CT. 06880

4.2.4 Shared-Ride Taxi, Logan Airport, Boston, Mass.

NOW AVAILABLE TO 138 CITIES AND TOWNS.

SHARE A CAB

SAVE A BUNDLE

A NEW, FAST, CONVENIENT, DOOR-TO-DOOR CAB SERVICE.

What is Share-A-Cab?

Share-A-Cab is an innovative plan that lets you take a cab from Logan for about half of what it would cost you normally. You share a cab with other people who are going your way. But you don't have to worry about finding those people. We'll find them for you. When we first started, just this past April, Share-A-Cab served 21 cities and towns. Response was so overwhelmingly favorable, Share-A-Cab has grown to the point where it now serves 138 cities and towns!

Why would I Share-A-Cab?

1. You save money.
Share-A-Cab fares are about 50% of what you'd pay normally.
2. You know in advance what the fare is.
The Share-A-Cab rate is a per person flat fare with all tolls and other fees included. It's set in advance and doesn't vary depending on traffic or routes.
3. It's door-to-door service.
With Share-A-Cab you are delivered right to your door from Logan.
No transfers.
No unnecessary luggage handling.

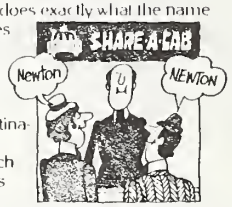
How do I get Share-A-Cab Service?

Every airport terminal has a special Share-A-Cab booth located at the Baggage Claim area. It's clearly marked so you won't have any trouble recognizing it. Just go up to the Share-A-Cab Dispatcher inside the booth and indicate where you'd like to go. (Also feel free to ask any questions you may have about our Share-A-Cab service or other Logan Airport ground transportation services.)

Then what?

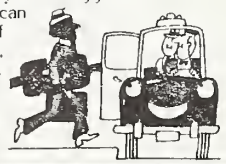
The Dispatcher does exactly what the name implies – dispatches – specifically, dispatches groups of people who are going in the same direction. Your destination is phoned to a control center which processes requests from Share-A-Cab Dispatchers located in all terminals. When there are enough people going in one direction to constitute a group, the control center orders up a cab and notifies your terminal Dispatcher that a cab is on its way. The Dispatcher will then tell you the name and number of the cab being dispatched and exactly where to wait for it. The Cab will be clearly marked with the Share-A-Cab sign.

That's all there is to it. You're on your way!



What does Share-A-Cab guarantee?

1. The Dispatcher is obligated to include you in a group within 10-15 minutes, or
2. If after 10-15 minutes the Dispatcher doesn't hear of even one other person wanting to share a cab in your direction, you will be advised of that and asked if you want to continue to wait or take a regular taxi at the standard fare or use some other means of transportation.
3. Once in a while a person scheduled to join your cab may not make it. But that's not your problem. Once you're in a Share-A-Cab taxi, you're guaranteed of service at the Share-A-Cab rate. Even if you're all by yourself.
4. Each person can bring 2 pieces of luggage – more, if space permits.
5. Tolls and surcharges are included in your Share-A-Cab fare.



What hours does it run?

Share-A-Cab is in service 7:30 am-11:30 pm, seven days a week.

Where does it go and what does it cost?

These are the areas covered. The fees listed are per person regardless of the number of people in the cab (minimum two, maximum four) and the cab driver is responsible for all tolls. Tipping? That's up to you!

Check with the local taxicab companies in your area to see whether they are offering Share-A-Cab service to the Airport.

Share-A-Cab also helps reduce traffic and in doing so has a positive environmental effect. Congestion, air pollution and noise are all lessened and that's certainly to be desired.

A bit of background.

To provide travelers through Logan with the widest choice of economical ground transportation services, the taxi industry, with promotional assistance from Massport, introduced Share-A-Cab to areas outside downtown Boston. We hope you'll use Share-A-Cab often. Because our concern doesn't end when your plane lands. We want your whole trip to be as convenient and pleasant as possible.

Please help us to serve you better by advising us of any complaints or suggestions you may have for improving the Share-A-Cab Service.

Share-A-Cab is a concept in multi passenger taxi dispatching for Logan Airport promoted by the Massachusetts Port Authority. Actual taxi services under the Share-A-Cab concept are rendered solely by participating independent taxi owners and operators, not by the Massachusetts Port Authority.

Under federal and state law and Massport regulations, public transportation services at Logan shall be provided without discrimination on grounds of race, creed, sex, or national origin.

List of communities on back of brochure ↓

COMMUNITIES SERVICED

Abington	$11.50
Acton	14.00
Amesbury	19.00
Andover	12.50
Arlington	6.00
Ashland	12.75
Avon	9.50
Ayer	20.00
Bedford	9.50
Bellingham	17.50
Belmont	6.50
Berlin	19.00
Beverly	9.50
Billerica	11.00
Bolton	17.50
Boxborough	15.50
Boxford	14.00
Braintree	8.00
Bridgewater	15.50
Brockton	12.50
Brookline	5.00
Burlington	9.50
Cambridge	4.50
Canton	11.00
Carlisle	14.00
Chelmsford	14.00
Chelsea	2.00
Cohasset	11.50
Concord	11.50
Danvers	9.50
Dedham	8.50
Dover	8.50
Duxbury	18.00

THE LIFT

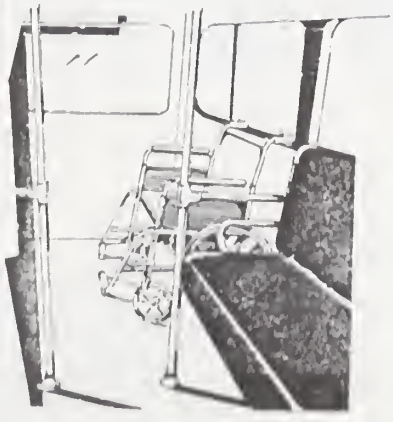
Rider's Guide to THE LIFT from Tri-Met

Now, The Lift.

It's Tri-Met's new service for Portland residents who are disabled and unable to ride the bus and don't have private transportation. It's for people of all ages, elderly and young, with mental or physical handicaps. THE LIFT provides safe and comfortable public transportation to those members of the community who are mobility disadvantaged.

Specially equipped buses.

THE LIFT's fleet of 15 Mercedes-Benz mini-buses have many unique features: an extending lower step for getting on and off easily; a separate lift and tie-down spaces for wheelchairs; comfortable seating; and optimum safety design for everyone.



You may be eligible.

THE LIFT provides special transportation through public agencies and non-profit organizations and to persons not connected with any agency. There is no fare if you are sponsored by an agency or organization; otherwise, the fare is 50¢ one-way.

Tri-Met estimates there are 21,000 people living inside the Portland city limits who can't use regular public transportation. THE LIFT is for you if you can't:

- get on or off the bus by yourself, or
- walk from home to the nearest bus stop, or
- stand for more than 10 minutes, or
- move in crowds, or
- read information signs, or
- grasp coins, tickets or handles

If you feel you can use THE LIFT, call the agency or organization presently serving you in order to register. Registration for THE LIFT will be done through your service agency. Persons not connected with an agency should call Tri-Met directly to get their registration materials.

Target Market
4.2.6 Brochure--The Ride
Boston, Massachusetts

THE RIDE

THE RIDE

is the Massachusetts Bay Transportation Authority's door-to-door service for eligible transportation-handicapped people of all ages. We have lift-equipped vans with both regular seats and space for wheelchairs.

TO BE ELIGIBLE

First you must live in the following areas:

ALLSTON	FENWAY
BRIGHTON	KENMORE
BROOKLINE	SOUTH END
BEACON HILL	DOWNTOWN BOSTON
PARTS OF ROXBURY AND	
PARTS OF CAMBRIDGE	

* *(see map on back)*

Second you must have:
A disability which prevents your use of currently available Mass Transit facilities. For example, being unable to:

- Negotiate a flight of stairs, escalator or steep inclines.
- Enter or leave a standard transit vehicle such as a bus, streetcar, trackless trolley, rapid transit car, or commuter railroad car.
- Stand in a moving vehicle.
- Read informational signs, i.e., legally blind, tunnel vision, etc.
- Walk more than 200 feet.

TWO KINDS OF RIDE

SUBSCRIPTION RIDE

If you make a regular trip, for example to work, school, or a medical appointment, at least twice a week, every week—to and from the same place—you might be eligible for our subscription service.

Demand will be high, so we'll make a special effort to accommodate those most in need of THE RIDE.

We'll pick you up and bring you back anywhere within THE RIDE service area.

DIAL-A-RIDE

You can take THE RIDE for other trips too. If you're an eligible rider, call at least 24 hours ahead of time and we'll make the arrangements. The earlier you call, the better chance you have of getting a ride.

YOU NEED A TICKET TO RIDE

Our driver cannot accept cash. So, be sure you get your ticket books in advance ... from the Office for Special Needs.

One-way trips within the service area cost 75¢. There will be additional charges for special trips outside service area.

APPLY FOR THE RIDE

Fill out application form and mail to:

MBTA
Office for Special Needs
45 High Street
Boston, Massachusetts 02110

If you want more information or forms, call us at 722-5123.

DIAL 722-5123

This experimental program was initiated on April 4, 1977 and provided over 7,000 passenger trips in the first nine months. THE RIDE is continuing as a pilot project through 1978 and as such, may be subject to change.

1978

4.2.7 Target Market
Shared-ride Taxi, Brochure
Cleveland, Ohio

CRT CRT CRT CRT CRT CRT CRT CRT

Community Responsive Transit

Northeast Area

Need a ride tomorrow? Call today!,

721-3500

RTA

CRT CRT CRT CRT CRT CRT CRT CRT

WHAT IS CRT?

CRT is the Community Responsive Transit service sponsored by your Greater Cleveland Regional Transit Authority. The service is intended to provide safe and convenient transportation for the elderly and handicapped. There are no fixed routes. Passengers may be picked up at different points during any trip. In your area, the transportation will be supplied by RTA through its contract with Yellow Cab Co.

WHO CAN USE CRT?

You can if you meet one of the following requirements:

1. You are 65 years of age or older and have an RTA Senior Citizens pass.
2. You have an RTA Handicapped pass.
3. You presently have a Reserve-A-Ride pass.

Simply show one of the above passes to the driver as you board.

WHAT ARE THE HOURS FOR CRT?

Monday through Friday: 9 a.m. to 5 p.m. (with no pick-up being made after 4:30 p.m.).

Saturday. No service.

Sunday: 8:30 a.m. to 3 p.m. (with no pick-up being made after 2:30 p.m.).

HOW CAN YOU RIDE ON CRT?

Reserve your ride one day in advance of your trip. Riders will be accommodated on a first-come, first-served basis. You must call no later than 4 p.m. on Friday in order to reserve a ride for either Sunday or Monday.

WHAT NUMBER DO YOU CALL FOR SERVICE?

The telephone number is 721-3500.

HOW DO YOU RESERVE YOUR RIDE?

Call 721-3500.

Give the following information:

- Your name, address and telephone number.
- Number of people making the trip.
- Time for pick-up and *return*.
- Exact destination.
- Type of bus needed (regular or wheelchair-equipped).

CAN YOU CANCEL YOUR TRIP?

Yes. If you find that you cannot take your planned trip, please let us know promptly. Do so by calling 721-3500 on weekdays between 8.30 a.m. and 4 p.m.

WHERE CAN YOU RIDE ON CRT?

To the doctor or dentist.

To shop.

To visit friends.

To church.

To club meetings.

To any place within your neighborhood for any reason.

WHAT DOES IT COST?

It is *free* for those who qualify.

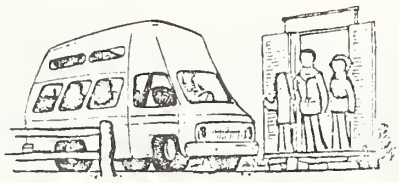
SPECIAL INFORMATION

For medical appointments only -- if you find you are running late for your return trip -- have the nurse call 721-3500. Special efforts will be made to still pick you up.

Also, for medical trips you may reserve a ride an extra day ahead.

RTA

(map on the back)



Here come the answers to your questions about the maxytaxy.

Q. What is maxytaxy?
A. It s a big, red, comfortable taxy.

Q. Who can ride it?
A. Everyone in Westport.

Q. Where does it go?
A. It goes door to door, anywhere in the town of Westport.

Q. How do you get it?
A. Call 226-9525 and it picks you up and takes you where you say.

Q. When is the maxytaxy in service?
A. Seven days a week, holidays too, from 6 A.M. to 1 A.M., Fridays and Saturdays 6 A.M. to 2 A.M.

Q. How much does it cost?
A. Much less than you'd expect to pay — AND THERE'S NO TIPPING! The town is divided into 15 zones and the costs are figured on a zone to zone basis. Typical trips: If you live near Exit 42 of the Merritt Parkway and you want to go to the train station, you pay about $2.50. If you live in Saugatuck Shores and want to go to Main Street, it costs $1.25. If you live near the Nature Museum and want to go to Compo Beach, the cost is $2.25. If you live in the Greens Farms area and want to go to the Westport Library, your fare is $1.50. If you go from the train station to Zone 8 — that's downtown — you pay only $1.00. (If you're in doubt about where things are on our zone map, ask any driver or call us.)

Q. Why is service so low in cost?
A. Because maxytaxy can pick up several passengers from one neighborhood who are taking the same trip and this shared ride means a real economy for you.

Q. Will there be a lot of people sharing the ride?
A. No — usually only one or two other people will be going in your direction.

Q. How long do you have to wait to be picked up?
A. Even during rush hours, 30 minutes is the most you'd have to wait — but it's usually less.

Q. What should you use it for?
A. Take it to the station, to work, to the beach, to shopping, tennis or golf, to medical appointments, to lessons, to parties, to the movies — you name it!

Q. Why try it?
A. Because, like the minnybus, it saves gas, saves parking, saves chauffering, makes it easy and convenient to get around town — but unlike the minny, it takes you door to door. Between the minny and maxytaxy, you can get rid of a gas guzzler that costs you $1600 a year to maintain and ride with us for much less!

Q. If you have other questions, how do you get the answers?
A. Call our Information Center: 226-7171. We want to help you all we can.

Here comes the minny

Westport Transit District
311 Post Road East, Westport, Ct.
For information call 226-7171

4.3.2 Sample Media Spot Announcement, Worcester, Mass.

MEDIA SPOT ANNOUNCEMENT FOR RTA, WORCESTER, MASS.

#1 Client: Regional Transit Authority

Subject: 30-second anno/14 September '77

ANNCR: Remember when you could phone to have groceries delivered? Now you can phone for free transportation to and from the store...with an escort to help carry your order. You can, that is, if you live in Worcester and are 60 or older! Its the Elder Shopper Special...free minibus-service for Worcester's senior citizens. For reservations and information phone 756-7149. Reservations must be made by 9 a.m. the day before you need a ride. It's free and its direct to your door! So, "dial-a-ride" at 756-7149! The Elder Shopper Special...another service of the RTA! The RTA...going your way!

#2 Client: Regional Transit Authority

Subject: 30-second anno/19-23 Sept. '77

ANNCR: Helping the handicapped get around town.. that's what SMITS is all about. SMITS... the RTA's Special Mobility Impaired Transit Service! A fleet of specially-designed vans is at your service weekdays from 6 a.m. to 6 p.m., providing transportation for the elderly and handicapped on crutches, walkers, or wheelchairs! Transportation for shopp-ing...medical visits...or commuting to and from work! For reservations 24 hours in advance, phone the Worcester Council on Aging...756-7149. 756-7149! SMITS... another helpful service from the RTA. The RTA...going your way!

More Meetings On Dial-A-Bus Planned

4.3.3 News Story, Rochester, New York

ENABLING HANDICAPPED to ride buses is the Dial-A-Bus special handicapped dial-a-ride, now in operation in Irondequoit and serving many St. Ann's Home residents, as shown above by several St. Ann's Home travelers. Regular Dial-A-Bus service for Irondequoit is in the planning stages.

The citizens' ad hoc transportation committee working with transit officials to develop Dial-A-Bus service in Irondequoit has decided to have another series of public meetings next month. The meetings will be both to solicit more citizen suggestions and to present developed plans for bringing the service into the town, explained Dial-A-Bus information officer Anne M. Iacuzzo.

The committee, comprised of Ronald Maggio, chairman, Mr. and Mrs. Frank Nolte, Mrs. Clarice Moranz, and William O'Neill, met Sept. 30 to review suggestions presented at two community informational meetings held last month.

Together with transit officials the committee discussed the home-to-work service and the possibilities of a Ridge Rd. shuttle into Greece, Miss Iacuzzo said.

The committee is also searching to widen community representation in its work, the public information officer continued. Representation from the town-city boundary areas where Dial-A-Bus will overlap and from the high school student population is being sought, she continued.

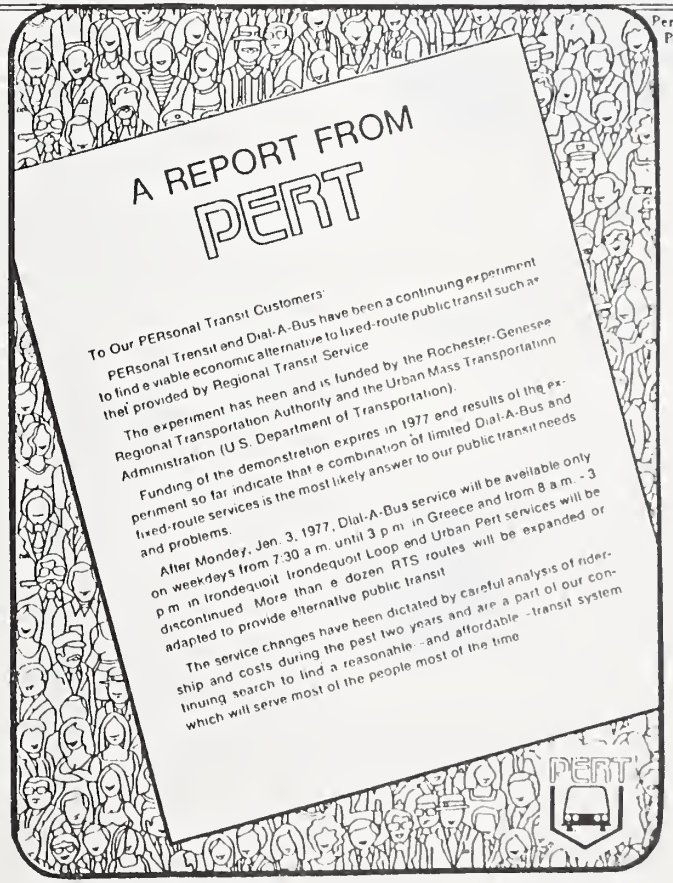
"We're very concerned with citizen input," Miss Iacuzzo commented. She said the committee has been greatly assisted by Phyllis Snavely, director of senior citizens activities in Irondequoit, who has been a "community asset as to service for senior citizens."

Finalization of plans, including hours, boundaries, fares, zones, and types of service, is expected in December.

However, "our biggest problems are contingent upon the arrival of buses and communications equipment, which will be a computer-assisted dispatch service," noted Miss Iacuzzo.

4.3.4 Newspaper Service Change Announcement
Rochester, New York

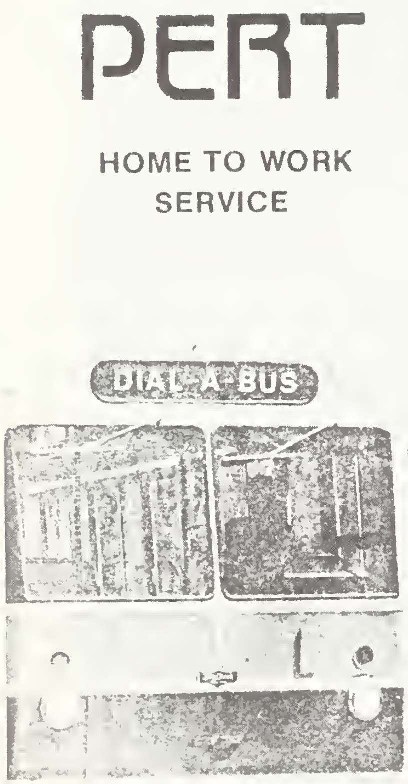
GREECE POST

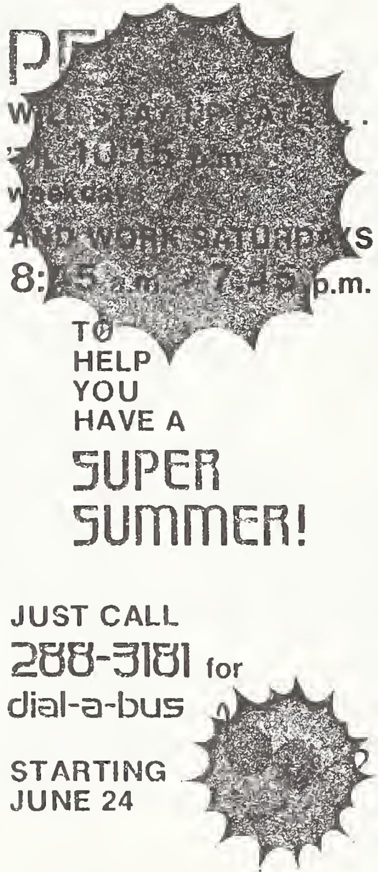


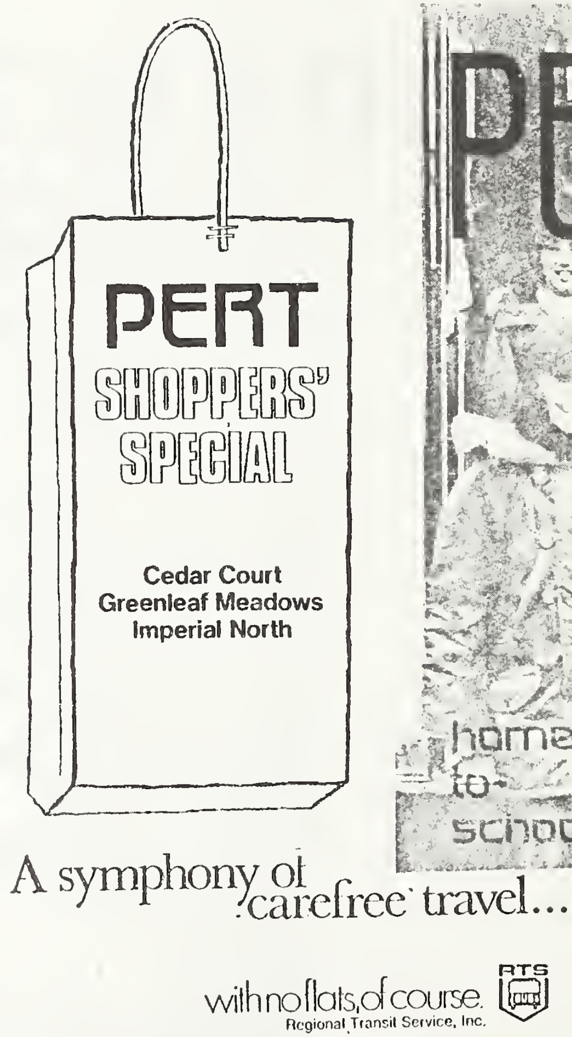
Per Year
Per Copy

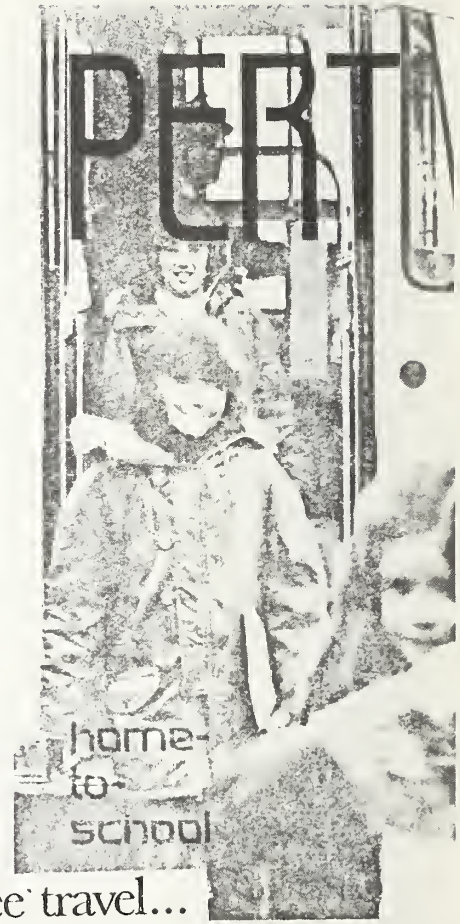
Thursday, December 30, 1976

4.3.5 Special Services Promotionals
Rochester, New York









Ad in symphony program →

4.4 Sample Dial-A-Ride Newsletter
Ann Arbor, Michigan

dial-a-ride NEWS no. 5

Service Area Expands Nov. 1

With this issue of Dial-a-Ride News, we welcome a new group of Dial-a-Ride customers, living just to the north of the original residential service area. These customers are receiving a special supplement to this issue of Dial-a-Ride News, presenting the same detailed explanation of the service that was provided to our original group of customers in mid-September.

As of November 1, the residential service area is being expanded to include addresses on the north side of Pauline, west of Stadium, Federal Blvd, Commerce Dr., and Arbordale, Evelyn, Lennox, Raymond, Sherwood and Northwood plus Virnankay Circle. We are also adding addresses on both sides of Scio-Church Rd., and within the triangle formed by Scio Church, Saline and the expressway.

Dial-a-Ride is pleased to be able to service a larger number of Ann Arbor residents at this time. We have found that the first five weeks of operation went so smoothly that we are able to expand service considerably earlier than we had originally anticipated. With the cooperation of both our "old" and our "new" customers, we should be continuing to improve service and to announce other services, in succeeding weeks.

Add Hospitals, North & South University Stops

Effective Monday, November 1, Dial-a-Ride is adding the following stops, available as destinations and origins for service in addition to the intown loop: St. Joseph Mercy Hospital; University Hospital (Ann Street entrance); corner of Church and North University streets; and corner of Church and South University streets. We believe that these additional service points will make Dial-a-Ride even more attractive to residents of the newly-expanded service area.

Because trips to these points may take a different route than those to points along the original intown loop, we advise customers to allow a few more minutes lead-time, in scheduling such trips. Also, at least in November, service will not be available between these new service points and destinations along the intown loop. The new service points are only intended as the terminals of trips beginning or ending in the residential service area.

Finally, as with other questions, please feel most welcome to call the Dial-a-Ride number (663-4292) for answers to any questions you may have regarding the expanded service being offered in November.

Dial-a-Ride Box Score

Total Passenger Trips (First 24 Days)	2299
Average Daily Ridership	95
Best Single Day (Friday, Oct. 15)	143
Total Passenger Trips, Week of Oct. 11-16	694
Increase from Preceding Week	21%

4.5 Breakdown of Marketing Budgets

4.5.1 State of Michigan DART Program (Cities of 25,000-30,000 People)

Initial Expenses	
Preparation of literature and graphics 20 hrs. @ $5/hr.	$100
Printing: 10,000 brochures	120
10,000 telephone stickers	100
5,000 "second-level" bulletins	60
100 posters	90
5,000 free ride tickets	30
Telephone answering/brochure addressing Temporary help, 20 days @ $25/day	500
Postage, 3,000 mailings @ $0.10	300
Telephone book advertising	50
Free rides, 1,000 @ $0.50 used	500
Additional for paid advertising and miscellaneous	150
	$2,000
Monthly Expenses	
Printing (as needed)	$50
Postage, 500 mailings @ $0.50	50
Telephone book advertising	40
Free rides, 100 @ $0.50 used	50
Miscellaneous	10
	$200

Assumptions

* Marketing is the responsibility of the project director and the cost of his time spent in marketing is paid as a regular budget item.
* Distribution of materials is covered under training or done by volunteers

4.5.2 Greece, New York (Suburb of Rochester) (City of 69,000 people)

PRE-DEMONSTRATION PROJECT

Initial Expenses	
Preparation and initial marketing with slide show presentation	$500
Preparation and printing of information folders	3,000
Direct mailing of 20,000 general information brochures and special interest brochures; preparation costs	7,250
Outdoor advertising; 12 boards for 3 months each; production costs	5,800
Newspaper advertisements: six 4x10 ads in local newspapers, two ads in major metropolitan papers; production costs	3,450
Production and distribution of counter displays	1,000
In-plant industrial promotion	2,000
Press releases, news conference-luncheon, etc.	750
First-day-of-service activities	2,250
Contingencies	2,000
	$28,000
Monthly Expenses	
Similar to start-up expenses; mostly mailings	$1,167

DEMONSTRATION PROJECT

Total Budget (27 Months)	
Direct mailings	$35,500
Newspaper ads	40,022
Brochures	18,325
Miscellaneous	6,875
Staff	13,750
	$114,472
An additional $23,062 was set aside for marketing experimentation	or $4,240/month

5.0 ANALYTICAL PROCEDURES AND TOOLS

The development of integrated paratransit systems has been accompanied by the development of a wide range of modeling and analytical activities designed to shed light upon the delicate balance between supply, demand and cost in a paratransit network. Modeling and analytic approaches have ranged from complex simulations to simple rules of thumb. Of the wide range of theoretical models developed to date, relatively few have been applied in a practical planning context, and the results of these limited applications have been mixed.

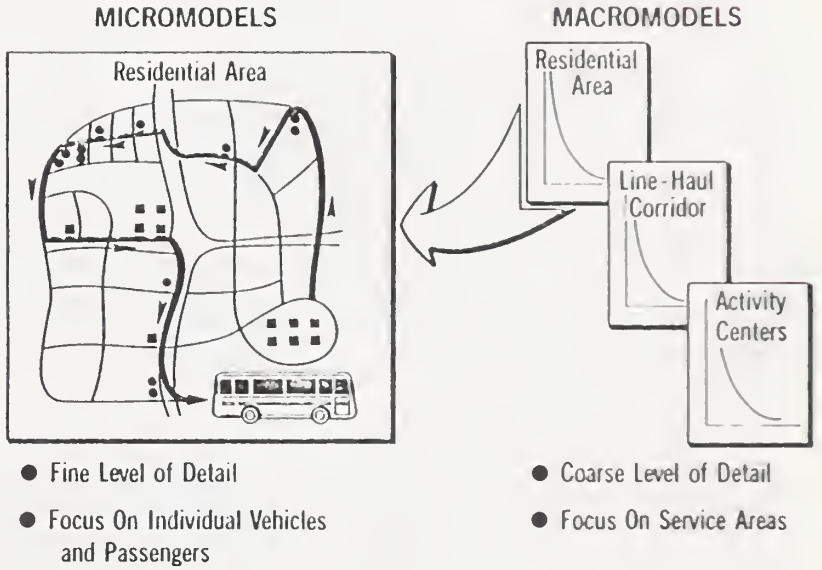
A comprehensive literature search, accompanied by extensive discussions with members of the paratransit community, has resulted in the identification of more than seventy references dealing with the modeling of flexibly-routed transportation systems (References 158, 231). This section summarizes the development, classification and application potential of the models represented in this literature. A more detailed examination of model attributes, as well as a comparison of the relative capability and ease of use of similar models, may be found in Reference 159.

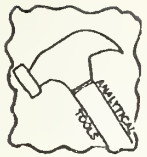
5.1 Model Classification

A coarse classification system for existing models, based on the level of model complexity and the focus of the modeling effort, divides paratransit models into two distinct groups (see exhibit):

- Micromodels, which deal with a fine level of detail and focus on the relationships between individual vehicles and passengers; and
- Macromodels, which deal with a coarser level of detail and focus on individual service and regionwide performance rather than on individual vehicles and passengers.

BROAD MODEL CLASSIFICATION SYSTEM





5.1.1 Micromodels

Micromodels are primarily used to address analytic questions and explore detailed vehicle/passenger relationships within a single service area. Detailed simulations and disaggregate supply/demand models serve as two examples of the general classification of micromodels.

(A) Simulation

The simulation approach attempts to generate a series of artificial events and responses to these events in a manner which resembles the interaction of cause and effect in a real system. Digital computer simulations were among the first approaches to modeling the performance of demand-responsive systems (References 162, 169, 173, 179, 185, 186). Computer simulations enabled the analyst to model those details of the interaction between passengers and vehicles that could not be treated effectively by purely analytic models, and permitted the investigation of different vehicle control algorithms.

Although the simulation approach supports the exploration of detailed system dynamics, it has several serious disadvantages. Simulation models are cumbersome, inflexible, expensive, subject to statistical sampling errors, and limited in the scope of their application. In addition, they usually have extensive data requirements. Extreme caution should be exercised if simulations are to be used in such activities as feasibility analyses, systems design or model calibration. Nonetheless, simulation remains the most effective tool for evaluating paratransit control algorithms, and is one of the few methods currently available for obtaining disaggregate measures of system performance.

(B) Disaggregate Supply/Demand Models

Few existing models treat paratransit supply and demand interactively at the disaggregate level; that is, few focus on individual tripmakers or socioeconomic groups rather than on entire service areas and treat the relationship between supply and demand interactively. The most significant one has been developed by Cambridge Systematics/Multisystems (Reference 172). This model places a sophisticated analytic tool in the hands of the user without excessive input requirements, and appears to be a valuable tool for analyzing systems which have reached a steady state.

5.1.2 Macromodels

Macromodels may range in complexity from sophisticated stochastic models to simple rules of thumb. Four levels of complexity were identified in classifying macromodels for these guidelines. these four levels are listed below in order of decreasing complexity:

1. Stochastic models;
2. Deterministic models;
3. Empirical models; and
4. Rules of thumb.

There are no clear lines of demarcation separating these classfications and the distinctions between adjacent categories tend to blur at the edges. General descriptions of the criteria for inclusion in each category may be found in the following paragraphs.

Stochastic models. Stochastic models approach micromodels in level of complexity, depth of detail, and data requirements. Relatively few stochastic models of paratransit systems have been developed to date (References 196, 211 , 212 , 213).

Deterministic models. Most recent theoretical efforts to model paratransit system performance may be classified as deterministic models. These models typically treat the stochastic aspects of system performance with deterministic approximations grounded in geometric probability relationships. (Examples may be found in References 189 , 190, 191, 200 and 224 through 227.)

Empirical models. Empirical models "...attempt to develop simple relationships between the key attributes of system performance and design" (Reference 229), generally through regression analysis. Early empirical models (Wilson et al., Reference 88) used simulations as a basis of generating regression relationships, while more recent models have reflected actual operating experience in developing relationships between such factors as fleet size and demand density or ridership and population (MITRE guidelines, Reference 187 and 193).

Rules of thumb. Rules of thumb represent a distillation of conventional wisdom, operating experience, modeling results, and quick-and-dirty calculations, reduced to single sentences with the ring, although not necessarily the reliability, of axioms. Examples of rules of thumb are the admonition that "...it is considered necessary to maintain the level of service such that the ratio of waiting plus travel time for a demand-responsive trip to the time required to make the same trip by automobile does not exceed 3.0" (TSC Guidelines, Reference 7) or the guidance that "...an average of one seat per 1,040 population" represents a rough cut at the total number of seats needed to start a Dial-A-Ride service (City of Los Angeles Guidelines, Reference 199).

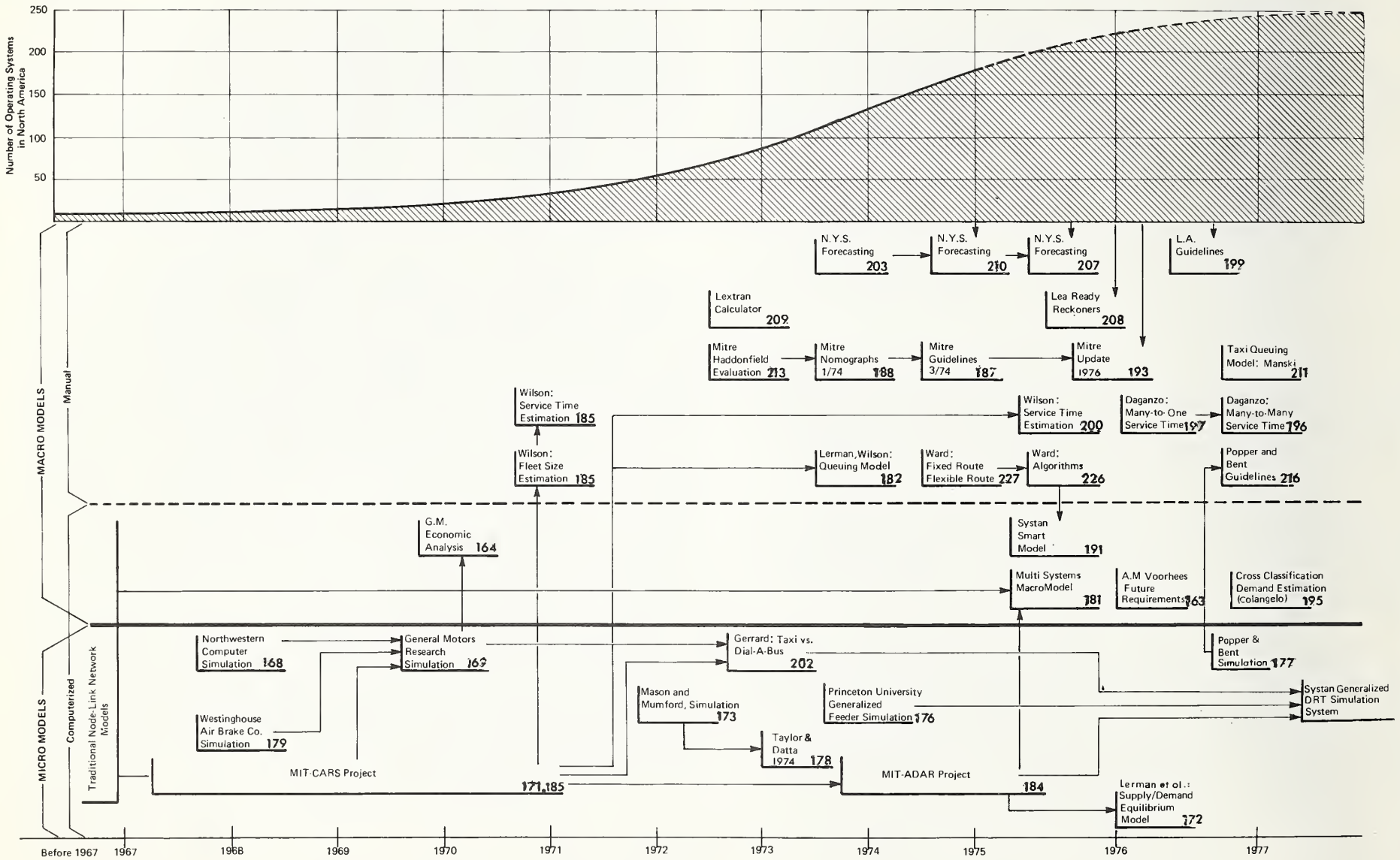
5.1.3 Summary of Model Attributes

Appendices A.6 and A.7 summarize, respectively, the attributes of a wide range of micromodels and macromodels. Key assumptions, required inputs, expected outputs, and potential uses are identified for each model, and reviewer comments summarize analytical approaches and limitations, as appropriate.

Go to

Appendices A-6 and A-7
Model Attributes

HISTORICAL DEVELOPMENT OF PARATRANSIT SYSTEMS AND MODELS



(Source: SYSTAN)

5.2 Model Genealogy

The development of paratransit models over time and its relationship to the historical introduction of paratransit systems in U.S. cities is represented in the exhibit. The graph at the top of the exhibit shows the approximate number of operating paratransit systems in the U.S. cities between 1967 and 1977. The flow diagrams beneath the graph trace the chronological development of major paratransit macromodels and micromodels over the same period, and graph the genealogical relationships between successive modeling efforts. Between 1967 and 1970, when there were relatively few paratransit systems operating in the U.S., most efforts to model the paratransit concept took the form of complex simulations. At least four different simulations were developed during this period, by Northwestern (Reference168), Westinghouse (Reference179), General Motors (Reference169), and the Massachusetts Institute of Technology (References171,178,185). As more and more paratransit systems were introduced in U.S. cities between 1972 and 1977, more and more system models were developed. However, the relative complexity of the theoretical models diminished as operating experience was obtained with real systems. At this writing, only one of the original simulations--the MIT model-- is known to remain in use, while the most recent modeling efforts reflect regression analysis of operating systems (MITRE Guidelines, Reference 193; City of Los Angeles guidelines, Reference 199).

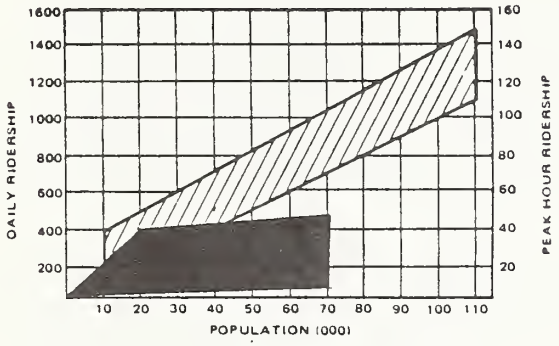
It is not surprising that elaborate simulation models should give way to simpler, empirical models as operating experience with actual systems increases. The simpler models are more accessible to planners than the simulation models, require less data to apply, are more easily understood, and offer results that are no less trustworthy than those of complex models for several basic planning tasks. Simulations contributed to the early understanding of demand-responsive systems by illuminating the nature of basic supply-demand relationships and by contributing to the education of the simulation developers, several of whom went on to help plan operating systems and develop less complex models. Although certain basic research questions remain which can best be answered through the use of detailed simulations, many practical operating decisions regarding fleet size, service area, and operating policies can be guided just as readily by empirical models.

Early modelers of paratransit systems not only tended to develop more complex models than later analysts, but they also tended to be more optimistic. Early paratransit models were supply models which treated demand exogenously and had no internal capability for reconciling supply and demand levels. Nor was there much operating experience to provide an external reference for such a reconciliation. Consequently, modeling results were heavily dependent on the level of demand selected by the modeler. Early modelers typically overstated system demand and, as a result, overspecified system service levels. As Wilson has observed, "Early studies of the economic feasibility of dial-a-ride suffered particularly from this problem, over-estimating demand by between one and two orders of magnitude, leading to an over-optimistic economic assessment of the system" (Reference 229).

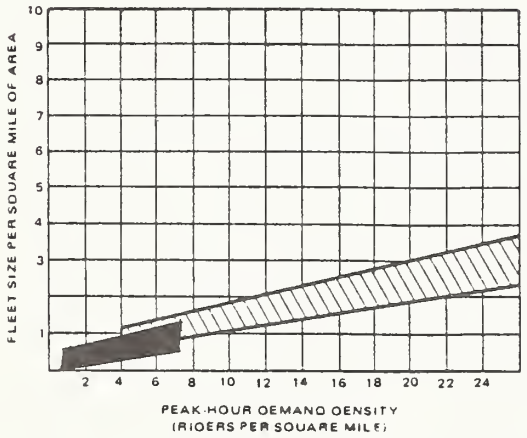
The discrepancy between overly optimistic early expectations for demand-responsive systems and actual experience is reflected in the accompanying exhibit, which compares early planning guidelines developed by MITRE (Reference 187) with later operating experience as reflected in the survey results described in Part 3. As shown, although the range of operating experience reflected in the later surveys overlaps a portion of the area covered by the earlier guidelines, the ridership levels and demand density of actual systems cover but a fraction of the range anticipated by the earlier theoretical work.

5.3

COMPARISON OF EARLY PLANNING GUIDELINES
AND SUBSEQUENT OPERATING EXPERIENCE



DAILY AND PEAK-HOUR RIDERSHIP VERSUS POPULATION



FLEET SIZE PER SQUARE MILE VERSUS PEAK HOUR DEMAND DENSITY

Early Planning Guidelines

Actual Operating Range for 66 Systems

(Source: MITRE, Reference 187, and SYSTAN System Surveys)

5.3 Model Performance

Existing paratransit models have addressed questions of system demand (ridership, fare elasticity), supply (fleet size), performance (level of service, response time), and cost. A hybrid class of models, designated as supply/demand models, have attempted to balance the interlocking relationship between supply and demand. This relationship is typically more complex in demand-responsive systems than in conventional fixed-route systems. In both system types, ridership is heavily dependent on the quality of service. In conventional systems, however, service quality is relatively independent of ridership, except when the capacity of the system is approached. By way of contrast, in demand-responsive systems, service quality may suffer as ridership increases overall ranges of demand. In an attempt to reflect this interactive relationship, certain supply/demand models iterate between ridership estimates and service measurements until an equilibrium point is approached. This iteration may be accomplished by computer, as in the case of the model recently developed by Cambridge Systematics and Multisystems (Reference 172), or by the successive application of nomographs, as in an earlier MITRE model (References 187 and 193).

The nomographs used in the iterative supply/demand model developed by MITRE appear in the exhibit. In a recent test of empirical models for predicting paratransit demand (Reference 159), this model proved to be more effective than other regression-based approaches in anticipating ridership for a limited sample of paratransit applications. Most empirical approaches to demand prediction performed poorly in this test, and there seemed to be little connection between the apparent sophistication of an approach and the quality of its results.

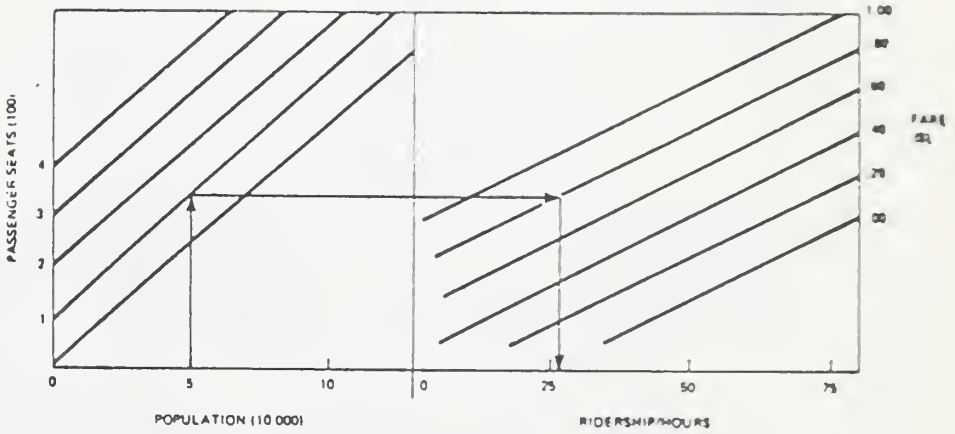
SIMULTANEOUS ESTIMATION OF DEMAND AND VEHICLE SUPPLY

The majority of the paratransit models developed to date can be classified as supply or performance models. These models attempt to compute either vehicle requirements or critical performance measures, or both, as a function of demand. Models designed to estimate fleet size typically treat vehicle requirements as a linear function of demand. If the demand is accurately predicted, most of these models are fairly reliable. A variety of analytic techniques have been developed to estimate such performance parameters as wait and ride times as a function of demand and fleet size (References 184, 189, 191, 224, 225, 226). Given accurate estimates of demand and fleet size, these models have performed adequately in test cases (References 159, 229). Past attempts to model the productivity of demand-responsive systems have tended to be overly optimistic (Reference 159). As more and more operating data reflecting relatively low ridership levels per vehicle become available, techniques for estimating productivity have become increasingly conservative.

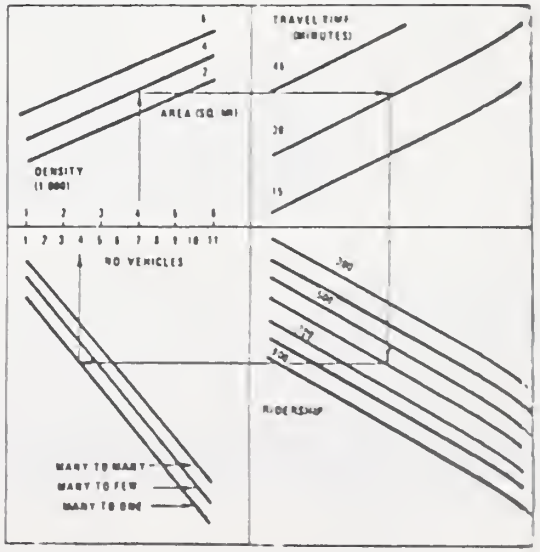
In practice, the costs of a demand-responsive system vary widely as a function of wage rates, work rules, and union practices. Attempts to model these costs range from simple rules of thumb (References 187, 188, 199) to more complex functions embedded in supply and demand models (References 189, 191). The simpler models typically express cost as a linear function of such key variables as fleet size or wage rates. These models are generally useful for preliminary planning purposes, but care must be taken to ensure that assumptions regarding wage rates, work rules and union practices are accurately reflected in the modeling process.

The user of any model of demand-responsive systems must take steps to ensure that the assumptions used in developing the model accurately reflect the situation in

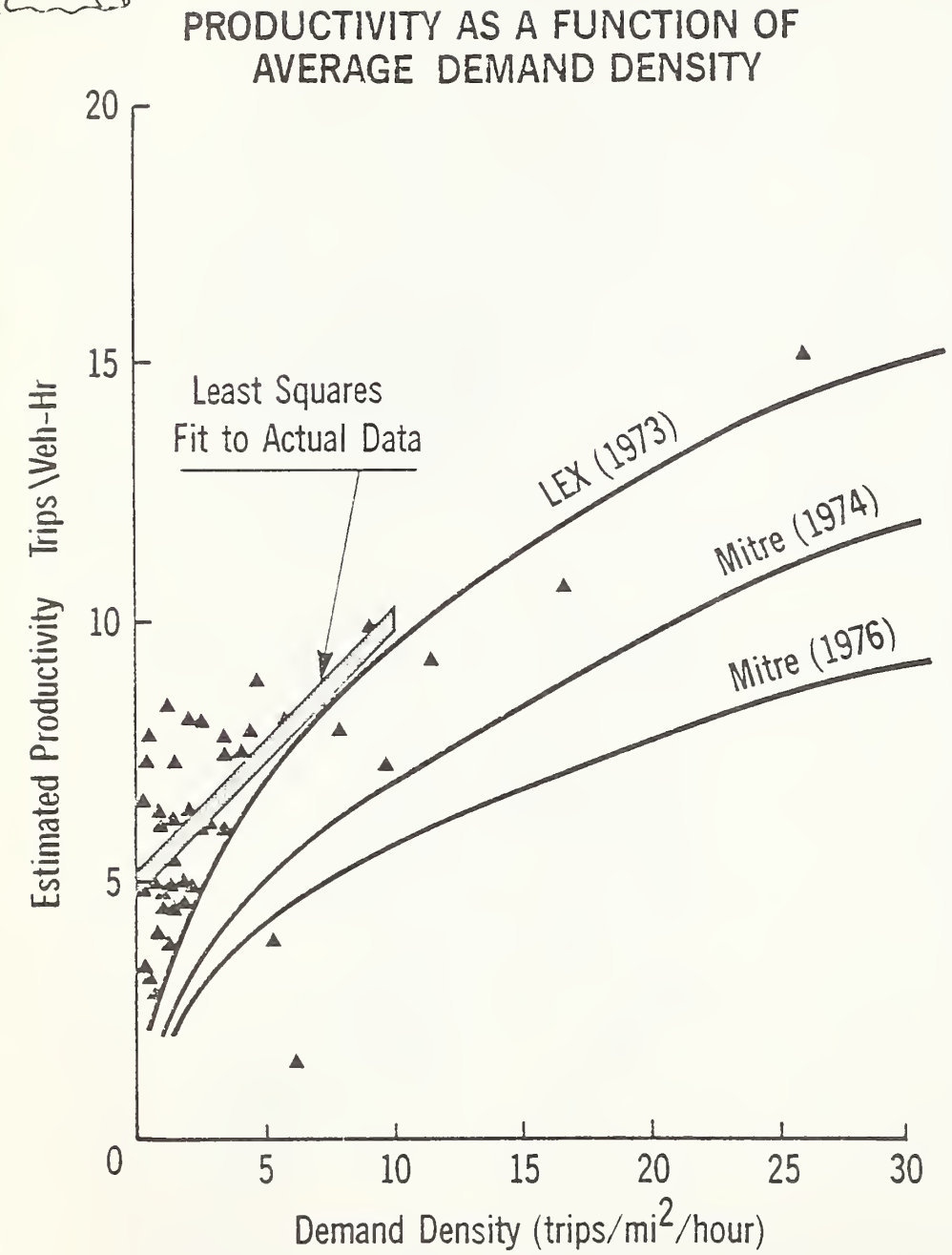
a: Nomograph for estimating riders/operating hour



b: Nomograph for estimating vehicle supply



(Source: MITRE, Reference 187)



(Source: SYSTAN Model Review, Reference 159)

the area of interest. Several empirical models have been calibrated for cities with a narrow range of demographic traits, and perform poorly when applied to areas outside that range (Reference 159). Nonetheless, the relative success of certain models in predicting demand in areas similar to the calibration regions suggests that future empirical models should attempt to segregate data from different types of systems. At present, many empirical models mix data from many-to-many services in attempting to develop relationships between demand or fleet size and demographic characteristics. This practice reduces the likelihood of obtaining an acceptable fix to existing data. As more data becomes available from operating systems, it may be possible to stratify the samples used in calibrating empirical models by demographic characteristics and service type so that more accuracy can be obtained.

5.4 Potential Uses

The facing exhibit associates potential model applications with various levels of complexity identified in the model review process. In many cases, an application may span several levels of model complexity. In general, of course, the more complex micromodels are theoretically capable of undertaking any of the tasks designated for less complex models. However, the cost, inflexibility and shaky past record of these models dictate that they be considered only for those tasks that cannot be addressed by the simpler models. By virtue of their position in the mid-range of system complexity, deterministic macromodels appear to have the widest range of potential uses. Simple enough to be used and understood by a wide range of users, they remain sufficiently detailed to provide insights into the complex relationships linking supply, demand and cost parameters.

POTENTIAL MODEL APPLICATIONS

	MICROMODELS		MACROMODELS			
	Simulations	Disaggregate	Stochastic	Deterministic	Empirical	Rules of Thumb
POTENTIAL USES	Testing Alternative Scheduling Algorithms	Investigation of Detailed Supply/Demand Relationships	Reliability Analysis	Preliminary Planning		
	Developing Transfer Strategies		Fleet Management		Conceptualizing Systems	
	Detailed Reliability Analyses	Demand, Supply and Cost Estimation				
	Formulation of Macromodels			Testing Alternative Deployment Scenarios	Outlining Possibilities	
		Alternatives Analysis				
				Sketch Planning of Planning	and Development Guidelines	
				Operating Guidelines		
				Policy Analysis		
POTENTIAL USERS	RESEARCHERS					Public Officials
		Planners in Large Communities		All Planners		
				Designers		
				Operators		
						Private Citizens

(SOURCE: SYSTAN)

5.4
5.5

The exhibit also lists the likely users of each model class. The more complex simulations are generally usable only by experienced researchers, while the simple rules of thumb can be comprehended by the public at large. The relative inaccessibility of the more complex micromodels to the planning community makes it imperative that attention be devoted to translating the output of these models in a format directly usable by the members of this community, perhaps by creating simpler macromodels on the basis of a series of simulation runs.

5.5 Summary

As the first of the micromodels developed to represent paratransit systems, computer simulations have been tested in many of the applications listed for all model levels in the last exhibit. These micromodels have shown themselves to be well suited for the detailed analysis necessary in the design and evaluation of scheduling and dispatching algorithms. However, one of the early developers of the simulation approach to paratransit modeling, Nigel Wilson, notes in his review of supply models that "...experience suggests a good deal of caution in the use of simulation models for planning new systems" (Reference 142). Simulation models have not fared well in past planning tasks for a variety of reasons, including their dependence on exogenous demand estimates, their failure to reflect important stochastic elements, their inflexibility, the significant investment of time and cost required for their application, and their relative inaccessibility by the planning community. The planner designing a small demand-responsive system typically does not need the level of detail afforded by a simulation model, lacks the time and sophistication necessary to adapt and apply the model, and could probably not justify the relatively low cost of the system itself.

Nonetheless, the simulation approach "...remains the most effective tool in algorithm design and the only way to obtain disaggregate measures of system performance" (Reference 229). Existing simulations have been limited even in these applications by an inability to represent more than one control algorithm and the failure to replicate aggregate performance measures within acceptable limits of accuracy. These deficiencies in existing simulation models have led UMTA to fund the design and development of a more flexible microsimulation model capable of replicating and evaluating a wider range of service and control alternatives (References 190 and 159).

Although simulations have generally not served successfully as direct system design tools, they have played an important role in contributing to the modeler's understanding of paratransit systems, and have supported the development of macromodels appropriate for design work.

Deterministic models appear to be able to reflect many of the important aspects of system operation. If expanded to include such stochastic measures as system reliability, the most complex of these models (i.e., the Multisystems Macromodel, Reference 189, and the SYSTAN SMART Model, Reference 191) should prove useful in testing alternative deployment scenarios, evaluating tradeoffs between different service combinations, and developing general guidelines relating system design to area characteristics.

Empirical regression models are currently the most accessible tool for the system planner, and offer the best means for developing rough, rapid estimates of supply, demand, and cost. As more and more operating data becomes available from different systems, these models should be refined to reflect the impact of such site-specific factors as climate, system service patterns, historical transit ridership, and automobile ownership on supply/demand relationships.

6.0 LABOR

This section includes the following materials:

6.1 Department of Labor 13(c) Guidelines

6.2 APTA Model 13(c) Agreement for Transit Operating Assistance

6.3 Union Work Rules Agreement for Rochester, New York

6.4 Service Contract Between Orange County Transit District and Private Operator

6.5 Cleveland Regional Transit Authority/ATU Work Rules Agreement

[4510-23]

Title 29—Labor

CHAPTER II—OFFICE OF THE ASSISTANT SECRETARY FOR LABOR-MANAGEMENT RELATIONS, DEPARTMENT OF LABOR

PART 215—GUIDELINES, SECTION 13(c), URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED

Procedures Followed By Secretary For Determining That Fair And Equitable Arrangements Have Been Made For Protection Of Employees Affected By Assistance Under Urban Mass Transportation Act.

AGENCY: Department of Labor.

ACTION: Final Statement of Policy and Procedures.

SUMMARY: The Urban Mass Transportation Act provides, in general, that it shall be a condition of any federal financial assistance by the Department of Transportation to states and local public bodies in financing mass transportation systems, that fair and equitable arrangements must be made, as determined by the Secretary of Labor, to protect the interests of employees affected by assistance. In conjunction with the Secretary of Labor's role in making such determinations, we are adding Part 215 to provide information concerning the Department of Labor's administrative procedure in processing applications for assistance under the Urban Mass Transportation Act, and certification by the Secretary of Labor of acceptable protective arrangements.

EFFECTIVE DATE: This part becomes effective May 1, 1978.

FOR FURTHER INFORMATION CONTACT:

Lary F. Yud, Division of Employee Protections, Labor-Management Services Administration, U.S. Department of Labor, Room N-5641, 200 Constitution Avenue NW., Washington, D.C. 20210; phone number 202-523-6495.

SUPPLEMENTARY INFORMATION: On January 18, 1977 there was published in the FEDERAL REGISTER (42 FR 3319) a notice of proposed guidelines with an amendment to 29 CFR Chapter II by adding a new Part 215. Corrections to the proposed guidelines were published on January 25, 1977 (42 FR 4492). All comments on the proposed guidelines were given due consideration.

DISCUSSION OF MAJOR COMMENTS

During the review of the comments received, certain key issues emerged and the decisions thereon and modifications, if any, to the proposed guidelines were as follows:

DEFINITIONS

A number of respondents recommended that definitions of such terms as "employees" be included in the guidelines. The purpose of the guidelines is to provide information concerning the Department of Labor's procedures in processing UMTA applications for employee protection purposes. As such, the Department has avoided to the extent possible including substantive provisions.

DOL REFERRAL PROCEDURE

A number of comments addressed the Department's practice of referring applications to the international offices of unions representing affected employees in individual project situations. It was proposed that the guidelines provide for referral of applications to local unions. It is a common practice of labor organizations in the transit industry to provide for centralized handling of employee protection arrangements at the international union level or by organizations which are affiliations of unions. Too, the constitutions of some unions require international approval of agreements. The Department of Labor believes that coordination of employee protection arrangements through international unions and affiliations of such unions greatly facilitates the orderly and expeditious processing of UMTA applications. No change has been made from the proposed version in the final guidelines.

PROTECTIVE ARRANGEMENTS WHEN STATE LAW PROHIBITS BARGAINING

Questions were raised concerning the effect of the procedure requiring the "negotiation" of protective arrangements in states where bargaining is prohibited for public employees. A number of respondents stated that under existing state law, they are unable to "bargain" protective terms and conditions and thus they feel they may be unable legally to comply with our guidelines. Although only a small number of applicants fall into this situation, we recognize potential conflict here. Special procedures have been followed in the past in these cases, such as the joint development of terms and conditions by the parties which are then incorporated into a resolution adopted by the appropriate public body. The intent of our guidelines is not to foreclose resort to such special procedures where they are necessary to satisfy the Federal statute in a manner that does not violate State or local law. A new paragraph has been added to § 215.3 to accommodate this practice.

TIME LIMITS ON NEGOTIATIONS

The single provision which received the most comments was § 215.3(d), dealing with the setting of time limitations on negotiations by the Secretary of Labor. Comments received from applicants stressed the need to establish certain fixed time limits by which certification action would be final. Comments from union organizations stressed the strangulation such time limits would place on the negotiating process. The Department of Labor recognizes that the negotiation of employee protective arrangements can seem interminable if there is no effective procedure pressing for their conclusion or alternative action by the Secretary of Labor. At the same time, we are very fearful that a fixed time limit automatically applicable to every case would constrict negotiations and replace a procedure which emphasizes voluntary action by the parties with one dominated by government decision making. This becomes all the more troublesome with the realization that the establishment of fixed time limits would require the accompanying adoption of formal review standards which would delve into such questions as whether the parties had made a "good faith" attempt to reach an agreement during the time alloted. Upon review, and in the face of such concerns and all available evidence we have concluded that fixed time limits should not be adopted. The record of recent case handling does not support the need for a drastic change in current procedures. Therefore, § 215.3(d) of the guidelines as proposed has been rewritten.

As rewritten, § 215.3(d) provides for the establishment of time schedules in appropriate cases. Under this procedure, the Department of Labor will solicit from the Department of Transportation, at the time individual grant applications are referred for certification, information concerning the anticipated funding approval date for the subject project. As part of its initial review of an application, the Department of Labor will determine whether a time schedule should be established for the processing of the application for employee protective arrangement certification purposes. In situations where no action on a project is predictable by the Department of Transportation, it is expected that no specific time schedule will be set. However, when the Department of Transportation advises that it seeks to approve a project by a certain date and absent special circumstances, the Department of Labor will establish a time schedule which to the extent possible conforms to the projected grant

approval date. That time schedule will be included in the Department of Labor's referral letters to the parties or subsequent written communications. The parties will thereby be placed on notice of the Department of Labor's target date for the certification of the project. Prior to that date the Department of Labor will contact the parties to determine what progress is being made and to determine if the Department should become actively involved in the negotiations.

The time schedule will be continually subject to review and modification based on exigencies that arise during the processing. The parties can expect that the negotiating process must be pursued expeditiously and in good faith. If progress toward an agreement becomes stalled or irreconcilable issues are confronted, the Department of Labor will incorporate into the time schedule dates by which the Secretary of Labor will take alternative action, including action to certify or to deny certification of the application.

Section 215.3(f) has been rewritten to make it consistent with § 215.3(d) as rewritten.

Amendatory Applications

The section of the proposed guidelines dealing with the processing of amendatory applications has been retained without modification. A number of comments were addressed to this section, including one which would have provided interested parties the opportunity to object to the Secretary of Labor's decision prior to its final implementation. We believe that our experience enables us to make the determinations called for in this section without review prior to issuance. The great majority of such cases involve straight-forward factors for review such as cost-overruns resulting from bids higher than anticipated. To open up such determinations to outside review is unnecessary and cumbersome. As we do now, all parties will be notified that we have made these decisions and furnished with copies thereof and the relevant material upon which those decisions were based.

Certifications of Recurring Operating Grants

In addition to the section of the guidelines on time limits, the section entitled "Recertifications based on existing agreements" received a great deal of attention in the comments. The purpose of this section as originally drafted was to provide some stability and longevity to protective arrangements developed for projects which were recurring in nature. Certain categories of such projects were listed and the proposed procedure would have had the Secretary of Labor reapply protective arrangements which existed in each category unless it was determined that other action was more appropriate. A number of comments received raised questions about the specific categories of recurring grants set forth in the proposed guidelines. The existence of a "normal equipment replacement or maintenance cycle" was questioned. During our review it became obvious that the categorization of projects into easily usable groups was fraught with difficulty and conflict.

In an effort to determine the necessity for this proposed procedure, the Department of Labor has reviewed all certification activity for the twelve-month period, January through December, 1977. During that period of time, the Department of Labor issued 748 certification actions. Ninety-nine of those certifications involved non-union situations, where the Department sets forth in its letter of certification all protective terms and conditions that will apply. Another 147 cases involved situations where, after review, the Department on its own initiative determined that a previous certification could be applied to revised or amendatory applications. Another 222 actions involved utilization of the so-called model agreement for operating assistance grants. Of the remaining 280 certification actions, 172 were based on the voluntary agreement of involved parties to apply the terms and conditions of previously developed protective agreements to new projects (referred to as "piggybacking"). That leaves 108 cases, less than 15 percent, in which new agreements were developed. Included in these cases were many specialized projects, including some involving paratransit and cases under the Section 17 grant program.

Further in comments directed to the recurring grant section, a number of respondents recommended inclusion of operating assistance grants as a recurring grant category. Such grants are obviously recurring and further constitute a special case because of the existence of the so-called model agreement for application to operating assistance grants. Moreover, the model agreement has served as the basis for some 450 certification actions on operating assistance applications over the 24 month period from January, 1976 through December, 1977. In view of the statistics cited above and the comments, which provide no support for any major change in current procedures, and the many very valid questions of interpretation raised about the recurring grant categories in the proposed guidelines, this section has been rewritten. As rewritten, the specific categories of recurring grants have been deleted as well as the provision allowing for "other categories to be determined by the Secretary" and the special procedure adopted has been limited to general purpose operating assistance grants.

Negative Declaration

Four respondents recommended adoption of the so-called "negative declaration" procedure for general purpose operating assistance grants. Under this proposal, the applicant would merely warrant that the project would have no adverse impact on employees. This would be in lieu of specific protective terms and conditions. A savings clause would be included in the event of unanticipated effects. The Department of Labor has previously reviewed this proposed procedure in detail and in its view it is contrary to the statute.

Accordingly, 29 CFR Chapter II is amended by adding a new Part 215 to read as follows:

Sec.

Authority: Secretary's Order No. 11-72, May 12, 1972.

§ 215.1 Purpose.

(a) The purpose of these guidelines is to provide information concerning the Department of Labor's administrative procedures in processing applications for assistance under the Urban Mass Transportation Act of 1964, as amended (hereinafter "the Act").

(b) Section 13(c) of the Act reads as follows:

It shall be a condition of any assistance under section 3 of this Act that fair and equitable arrangements are made, as determined by the Secretary of Labor, to protect the interests of employees affected by such assistance. Such protective arrangements shall include, without being limited to, such provisions as may be necessary for (1) the preservation of rights, privileges, and benefits (including continuation of pension rights and benefits) under existing collective bargaining agreements or otherwise; (2) the continuation of collective bargaining rights; (3) the protection of individual employees against a worsening of their positions with respect to their employment; (4) assurances of employment to employees of acquired mass transportation systems and priority of reemployment of employees terminated or laid off; and (5) paid training or retraining programs. Such arrangements shall include provisions protecting individual employees against a worsening of their positions with respect to their employment which shall in no event provide benefits less than those established pursuant to section 5(2)(f) of the Act of February 4, 1887 (24 Stat. 379), as amended. The contract for the granting of any such assistance shall specify the terms and conditions of the protective arrangements.

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§ 215.2 General.

Upon receipt of copies of applications for Federal assistance subject to section 13(c), together with a request for the certification of employee protective arrangements from the Department of Transportation, the Department of Labor will process those applications, which may be in either preliminary or final form. To facilitate review, the section of the application dealing with labor and relocation should estimate the effects on mass transportation employees of urban mass transportation carriers of the contemplated Federal assistance including possible impact of the assistance upon existing collective bargaining agreements, employment rights, privileges and benefits (including pensions) and the continuation of collective bargaining rights. The application should identify the labor organization, if any, representing employees of urban mass transit carriers in the area of the proposed project and describe what steps, if any, have been taken to develop the required employee protections.

§ 215.3 Employees represented by a labor organization.

(a)(1) If affected employees are represented by a labor organization it is expected that protective arrangements shall be the product of negotiation, pursuant to these guidelines.

(2) In instances where states or political subdivisions are subject to legal restrictions on bargaining with employee organizations, the Department of Labor will utilize special procedures to satisfy the Federal statute in a manner which does not contravene state or local law. For example, employee protective terms and conditions, acceptable to both employee and applicant representatives, may be incorporated into a resolution adopted by the involved local government.

(b) Upon receipt of an application involving affected employees represented by a labor organization, the Department of Labor will refer a copy of the application to that organization and notify the applicant of referral.

(c) Following referral and notification under paragraph (b) of this section, and subject to the exceptions defined in §§ 215.5 and 215.6, parties will be expected to engage in good faith efforts to reach mutually acceptable protective arrangements through negotiation.

(d) As part of the Department of Labor's review of an application, a time schedule for case processing will be established by the Department of Labor where appropriate. Absent special circumstances, the time schedule will be established in cases where funding approval is anticipated and will, to the extent possible, conform to the Department of Transportation's projected time frame for funding. In situations where no action on a project by a specific time is predictable by the Department of Transportation, it is expected that no time schedule will be set by the Department of Labor. Any time schedule established by the Department of Labor will be specified in its referral letters under § 215.3(b) or subsequent written communications to the parties. The parties are thereby placed on notice of the Department's target date for the certification of the project. It is expected that negotiations will be pursued expeditiously and in good faith. The Secretary will monitor progress of negotiations and in cases where negotiations break down or irreconcilable issues are present, the Department will incorporate into the time schedule dates by which the Secretary will take alternative action.

(e) The Secretary of Labor will review negotiated protective arrangements. If an arrangement meets the requirements of section 13(c), the Secretary will so certify to the Urban Mass Transportation Administrator. If the arrangement is not in conformity with the provisions of section 13(c), the Secretary may grant parties additional time to negotiate a satisfactory agreement, or he may set forth the provisions of the protective arrangement himself.

(f) If during the processing of an application the Secretary finds that the parties are unable to reach agreement, he will review the positions of the parties to determine appropriate action. Such action may include the Secretary's determination of the terms and conditions upon which he will base his certification or his refusal to certify for specified reasons.

§ 215.4 Employees not represented by a labor organization.

(a) The certification made by the Secretary will afford the same level of protection to those employees who are not represented by labor organizations.

(b) If there is no labor organization representing employees, the Secretary will set forth the protective terms and conditions in his letter of certification.

§ 215.5 Processing of amendatory applications.

When an application is supplemental to or revises or amends in immaterial respects an application for which the Department of Labor has already certified that fair and equitable arrangements have been made to protect the interests of mass transit employees affected by the subject project, and absent unusual circumstances, the Department of Labor will on its own initiative apply to the supplemental or other amendatory application the same terms and conditions as were certified for the subject project as originally constituted. The Department of Labor's processing of these applications will be expedited.

§ 215.6 Recurring Operating Grants and the Model Agreement.

(a) In instances where the Department of Labor receives general purposes operating assistance grant applications and the parties have previously endorsed the Model 13(c) agreement (referred to also as the "National Agreement"), the Department will serve notice to the subject parties that it will certify the project on the basis of the Model Agreement unless informed within two weeks from the issuance of our letter of notice that special circumstances are presented by the project which require changes in the Model Agreement or supplemental arrangements as applied to the particular project involved. In the event the Secretary determines that changes in the Model Agreement or supplemental arrangements are required, the Secretary will direct the parties to negotiate such arrangements in accordance with the case processing procedure described in § 215.3 hereof. If the Secretary determines that no special circumstances exist, he will so advise the parties and certify the project on the basis of the Model Agreement.

(b) The Model (or National) Agreement mentioned in paragraph (a) of this section refers to the agreement executed on July 23, 1975 by representatives of the American Public Transit Association and the Amalgamated Transit Union and Transport Workers Union of America and on July 31, 1975 by representatives of the Railway Labor Executives' Association, Brotherhood of Locomotive Engineers, Brotherhood of Railway and Airline Clerks and International Association of Machinists and Aerospace Workers. The agreement is intended to serve as a ready-made employee protective arrangement for adoption by local parties in specific operating assistance project situations. The Secretary has determined that this agreement provides fair and equitable arrangements to protect the interests of employees in general purpose operating assistance project situations and meets the requirements of Section 13(c).

§ 215.7 Department of Labor contact.

Questions concerning the subject matter covered by these guidelines should be addressed to the Division of Employee Protections, Labor-Management Services Administration, U.S. Department of Labor, Room N-5641, 200 Constitution Avenue NW., Washington, D.C. 20210; phone number 202-523-6495. (Secretary's Order No. 11-72, May 12, 1972.)

Signed at Washington, D.C., this 28th day of March, 1978.

FRANCIS X. BURKHARDT,
Assistant Secretary for Labor-Management Relations.

[FR Doc. 78-8560 Filed 3-30-78; 8:45 am]

6.2 Model Section 13(c) Agreement for Transit Operating Assistance

Agreement Pursuant To Section 13 (c) Of The Urban Mass Transportation Act Of 1964, As Amended

WHEREAS, the Congress recognized in the National Mass Transportation Assistance Act of 1974 that the urban mass transportation industry required operating assistance to maintain service to the public, stimulate ridership and assist communities in meeting their overall development aims, and

WHEREAS, Sections 3 (e) (4), 5 (n) (1) and 13 (c) of the Act require, as a condition of any such assistance, that suitable fair and equitable arrangements be made to protect urban mass transportation industry employees affected by such assistance; and

WHEREAS, the fundamental purpose and scope of this agreement is to establish such fair and equitable employee protective arrangements on a national and uniform basis for application throughout the urban mass transportation industry to those employees and employees represented by the labor organizations signatory hereto; and

WHEREAS, the undersigned American Public Transit Association and the national labor organizations signatory hereto have agreed upon the following arrangements as fair and equitable for application to any urban mass transportation employer ("Recipient") who is a signatory hereto and who has been designated to receive federal operating assistance under the Urban Mass Transportation Act of 1964, as amended ("Act");

NOW, THEREFORE, it is agreed that the following terms and conditions shall apply and shall be specified in any contract governing such federal assistance to the Recipient:

(1) The term "Project", as used in this agreement, shall not be limited to the particular facility, service, or operation assisted by federal funds, but shall include any changes, whether organizational, operational, technological, or otherwise, which are a result of the assistance provided. The phrase "as a result of the Project" shall, when used in this agreement, include events occurring in anticipation of, during, and subsequent to the Project and any program of efficiencies or economies related thereto; provided, however, that volume rises and falls of business, or changes in volume and character of employment brought about by causes other than the Project (including any economies or efficiencies unrelated to the Project) are not within the purview of this agreement.

(2) The Project, as defined in paragraph (1), shall be performed and carried out in full compliance with the protective conditions described herein.

(3) All rights, privileges, and benefits (including pension rights and benefits) of employees covered by this agreement(including employees having already retired) under existing collective bargaining agreements or otherwise, or under any revision or renewal thereof, shall be preserved and continued: provide however, that such rights, privileges and benefits which are not foreclosed from further bargaining under applicable law or contract may be modified by collectiv bargaining and agreement by the Recipient and the union involved to substitute other rights, privileges and benefits. Unless otherwise provided, nothing in this agreement shall be deemed to restrict any rights the Recipient may otherwis have to direct the working forces and manage its business as it deems best, in accordance with the applicable collective bargaining agreement.

(4) The collective bargaining rights of employees covered by this agreement including the right to arbitrate labor disputes and to maintain union security and checkoff arrangements, as provided by applicable laws, policies and/or existing collective bargaining agreements, shall be preserved and continued. * Provided, however, that this provision shall not be interpreted so as to require the Recipient to retain any such rights which exist by virtue of a collective bargaining agreement after such agreement is no longer in effect.

The Recipient agrees that it will bargain collectively with the union or otherwise arrange for the continuation of collective bargaining, and that it wil enter into agreement with the union or arrange for such agreements to be entered into, relative to all subjects which are or may be proper subjects of collective bargaining. If, at any time, applicable law or contracts permit or grant to employees covered by this agreement the right to utilize any economic measures, nothing in this agreement shall be deemed to foreclose the exercise of such righ

(5) (a) In the event the Recipient contemplates any change in the organization or operation of its system which may result in the dismissal or displacemen of employees, or rearrangement of the working forces covered by this agreement, as a result of the Project, the Recipient shall do so only in accordance with th provisions of subparagraph (b) hereof. Provided, however, that changes which ar not a result of the Project, but which grow out of the normal exercise of seniority rights occasioned by seasonal or other normal schedule changes and regular picking procedures under the applicable collective bargaining agreement, shall not be considered within the purview of this paragraph.

(b) The Recipient shall give to the unions representing the employees affected thereby, at least sixty (60) days; written notice of each proposed change, which may result in the dismissal or displacement of such employees or rearrangement of the working forces as a result of the Project, by sending certified mail notice to the union representatives of such employees. Such notice shall contain a full and adequate statement of the proposed changes, including an estimate of the number of employees affected by the intended changes, and the number and classifications of any jobs in the Recipient's employment available to be filled by such employees.

*As an addendum to this agreement, there shall be attached where applicable the arbitration or other dispute settlement procedures or arrangements provided for in the existing collective bargaining agreements or any other existing agreements betwen the Recipient and the Union, subject to any changes in such agreements as may be agreed upon or determined by interest arbitration proceedings.

At the request of either the Recipient or the representatives of the affected employees, negotiations for the purpose of reaching agreement with respect to application of the terms and conditions of this agreement shall commence immediately. These negotiations shall include determining the selection of forces from among the employees of other urban mass transportation employers who may be affected as a result of the Project, to establish which such employees shall be offered employment with the Recipient for which they are qualified or can be trained; not, however, in contravention of collective bargaining agreements relating thereto. If no agreement is reached within twenty (20) days from the commencement of negotiations, any party to the dispute may submit it to arbitration in accordance with the procedures contained in paragraph (15) hereof. In any such arbitration, final decision must be reached within sixty (60) days after selection or appointment of the neutral arbitrator. In any such arbitration, the terms of this agreement are to be interpreted and applied in favor of providing employee protections and benefits no less than those established pursuant to §5 (2) (f) of the Interstate Commerce Act.

(6) (a) Whenever an employee, retained in service, recalled to service, or employed by the Recipient pursuant to paragraphs (5), (7) (e), or (18) hereof is placed in a worse position with respect to compensation as a result of the Project, he shall be considered a "displaced employee", and shall be paid a monthly "displacement allowance" to be determined in accordance with this paragraph. Said displacement allowance shall be paid each displaced employee during the protective period so long as the employee is unable, in the exercise of his seniority rights, to obtain a position producing compensation equal to or exceeding the compensation he received in the position from which he was displaced, adjusted to reflect subsequent general wage adjustments, including cost of living adjustments where provided for.

(b) The displacement allowance shall be a monthly allowance determined by computing the total compensation received by the employee, including vacation allowances and monthly compensation guarantees, and his total time paid for during the last twelve (12) months in which he performed compensated service more than fifty per centum of each such months, based upon his normal work schedule, immediately preceding the date of his displacement as a result of the Project, and by dividing separately the total compensation and the total time paid for by twelve, thereby producing the average monthly compensation and the average monthly time paid for. Such allowance shall be adjusted to reflect subsequent general wage adjustments, including cost of living adjustments where provided for. If the displaced employee's compensation in his current position is less in any month during his protective period than the aforesaid average compensation (adjusted to reflect subsequent general wage adjustments, including cost of living adjustments where provided for), he shall be paid the difference, less compensation for any time lost on account of voluntary absences to the extent that he is not available for service equivalent to his average monthly time, but he shall be compensated in addition thereto at the rate of the current position for any time worked in excess of the average monthly time paid for. If a displaced employee fails to exercise his seniority rights to secure another position to which he is entitled under the then existing collective bargaining agreement, and which carries a wage rate and compensation exceeding that of the position which he elects to retain, he shall thereafter be treated, for the purposes of this paragraph, as occupying the position he elects to decline.

(c) The displacement allowance shall cease prior to the expiration of the protective period in the event of the displaced employee's resignation, death, retirement, or dismissal for cause in accordance with any labor agreement applicable to his employment.

(7)(a) Whenever any employee is laid off or otherwise deprived of employment as a result of the Project, in accordance with any collective bargaining agreement applicable to his employment, he shall be considered a "dismissed employee" and shall be paid a monthly dismissal allowance to be determined in accordance with this paragraph. Said dismissal allowance shall first be paid each dismissed employee on the thirtieth (30th) day following the day on which he is "dismissed" and shall continue during the protective period, as follows:

Employee's length of service prior to adverse effect	Period of protection
1 day to 6 years	equivalent period
6 years or more	6 years

The monthly dismissal allowance shall be equivalent to one-twelfth (1/12th) of the total compensation received by him in the last twelve (12) months of his employment in which he performed compensation service more than fifty per centum of each such months based on his normal work schedule to the date on which he was first deprived of employment as a result of the Project. Such allowance shall be adjusted to reflect subsequent general wage adjustments, including cost of living adjustments where provided for.

(b) An employee shall be regarded as deprived of employment and entitled to a dismissal allowance when the position he holds is abolished as a result of the Project, or when the position he holds is not abolished but he loses that position as a result of the exercise of seniority rights by an employee whose position is abolished as a result of the Project or as a result of the exercise of seniority rights by other employees brought about as a result of the Project, and he is unable to obtain another position, either by the exercise of his seniority rights, or through the Recipient, in accordance with subparagraph (e). In the absence of proper notice followed by an agreement or decision pursuant to paragraph (5) hereof, no employee who has been deprived of employment as a result of the Project shall be required to exercise his seniority rights to secure another position in order to qualify for a dismissal allowance hereunder.

(c) Each employee receiving a dismissal allowance shall keep the Recipient informed as to his current address and the current name and address of any other person by whom he may be regularly employed, or if he is self-employed.

(d) The dismissal allowance shall be paid to the regularly assigned incumbent of the position abolished. If the position of an employee is abolished when he is absent from service, he will be entitled to the dismissal allowance when he is available for service. The employee temporarily filling said position at the time it was abolished will be given a dismissal allowance on the basis of that position, until the regular employee is available for service, and thereafter shall revert to his previous status and will be given the protections of the agreement in said position, if any are due him.

(e) An employee receiving a dismissal allowance shall be subject to call to return to service by his former employer after being notified in accordance with the terms of the then-existing collective bargaining agreement. Prior to such call to return to work by his employer, he may be required hy the Recipient to accept reasonably comparable employment for which he is physically and mentally qualified, or for which he can become qualified after a reasonable training or retraining period, provided it does not require a change in residence or infringe upon the employment rights of other employees under then-existing collective bargaining agreements.

(f) When an employee who is receiving a dismissal allowance again commences employment in accordance with subparagraph (e) above, said allowance shall cease while he is so reemployed, and the period of time during which he is so reemployed shall be deducted from the total period for which he is entitled to receive a dismissal allowance. During the time of such reemployment, he shall be entitled to the protections of this agreement to the extent they are applicable.

(g) The dismissal allowance of any employee who is otherwise employed shall be reduced to the extent that his combined monthly earnings from such other employment or self-employment, any benefits received from any unemployment insurance law, and his dismissal allowance exceed the amount upon which his dismissal allowance is based. Such employee, or his union representative, and the Recipient shall agree upon a procedure by which the Recipient shall be kept currently informed of the earnings of such employee in employment other than with his former employer, including self-employment, and the benefits received.

(h) The dismissal allowance shall cease prior to the expiration of the protective period in the event of the failure of the employee without good cause to return to service in accordance with the applicable labor agreement, or to accept employment as provided under subparagraph (e) above, or in the event of his resignation, death, retirement, or dismissal for cause in accordance with any labor agreement applicable to his employment.

(i) A dismissed employee receiving a dismissal allowance shall actively seek and not refuse other reasonably comparable employment offered him for which he is physically and mentally qualified and does not require a change in his place of residence. Failure of the dismissed employee to comply with this obligation shall be grounds for discontinuance of his allowance; provided that said dismissal allowance shall not be discontinued until final determination is made either by agreement between the Recipient and the employee or his representative, or by final arbitration decision rendered in accordance with paragraph (15) of this agreement that such employee did not comply with this obligation.

(8) In determining length of service of a displaced or dismissed employee for purposes of this agreement, such employee shall be given full service credits in accordance with the records and labor agreements applicable to him and he shall be given additional service credits for each month in which he receives a dismissal or displacement allowance as if he were continuing to perform services in his former position.

(9) No employee shall be entitled to either a displacement or dismissal allowance under paragraphs (6) or (7) hereof because of the abolishment of a position to which, at some future time, he could have bid, been transferred, or promoted.

(10) No employee receiving a dismissal or displacement allowance shall be deprived, during his protected period, of any rights, privileges, or benefits attaching to his employment, including, without limitation, group life insurance, hospitalization and medical care, free transportation for himself and his family, sick leave, continued status and participation under any disability or retirement program, and such other employee benefits as Railroad Retirement, Social Security, Workmen's Compensation, and unemployment compensation, as well as any other benefits to which he may be entitled under the same conditions and so long as such benefits continue to be accorded to other employees of the bargaining unit, in active service or furloughed as the case may be.

(11)(a) Any employee covered by this agreement who is retained in the service of his employer, or who is later restored to service after being entitled to receive a dismissal allowance, and who is required to change the point of his employment in order to retain or secure active employment with the Recipient in accordance with this agreement, and who is required to move his place of residence, shall be reimbursed for all expenses of moving his household and other personal effects, for the travelling expenses for himself and members of his immediate family, including living expenses for himself and his immediate family, and for his own actual wage loss during the time necessary for such transfer and for a reasonable time thereafter, not to exceed five (5) working days. The exact extent of the responsibility of the Recipient under this paragraph, and the ways and means of transportation, shall be agreed upon in advance between the Recipient and the affected employee or his representatives.

(b) If any such employee is laid off within three (3) years after changing his point of employment in accordance with paragraph (a) hereof, and elects to move his place of residence back to his original point of employment, the Recipient shall assume the expenses, losses and costs of moving to the same extent provided in subparagraph (a) of this paragraph (11) and paragraph (12)(a) hereof.

(c) No claim for reimbursement shall be paid under the provisions of this paragraph unless such claim is presented to the Recipient within ninety (90) days after the date on which the expenses were incurred.

(d) Except as otherwise provided in subparagraph (b), changes in place of residence, subsequent to the initial changes as a result of the Project, which are not a result of the Project but grow out of the normal exercise of seniority rights, shall not be considered within the purview of this paragraph.

(12)(a) The following conditions shall apply to the extent they are applicable in each instance to any employee who is retained in the service of the employer (or who is later restored to service after being entitled to receive a dismissal allowance), who is required to change the point of his employment as a result of the Project, and is thereby required to move his place of residence.

If the employee owns his own home in the locality from which he is required to move, he shall, at his option, be reimbursed by the Recipient for any loss suffered in the sale of his home for less than its fair market value, plus conventional fees and closing costs, such loss to be paid within thirty (30) days of settlement or closing on the sale of the home. In each case, the fair market value of the home in question shall be determined as of a date sufficiently prior to the date of the Project, so as to be unaffected thereby. The Recipient shall, in each instance, be afforded an opportunity to purchase the home at such fair market value before it is sold by the employee to any other person and to reimburse the seller for his conventional fees and closing costs.

If the employee is under a contract to purchase his home, the Recipient shall protect him against loss under such contract, and in addition, shall relieve him from any further obligation thereunder.

If the employee holds an unexpired lease of a dwelling occupied by him as his home, the Recipient shall protect him from all loss and cost in securing the cancellation of said lease.

(b) No claim for loss shall be paid under the provisions of this paragraph unless such claim is presented to the Recipient within one year after the effective date of the change in residence.

(c) Should a controversy arise in respect to the value of the home, the loss sustained in its sale, the loss under a contract for purchase, loss and cost in securing termination of a lease, or any other question in connection with these matters, it shall be decided through a joint conference between the employee, or his union, and the Recipient, In the event they are unable to agree, the dispute or controversy may be referred by the Recipient or the union to a board of competent real estate appraisers selected in the following manner: one (1) to be selected by the representatives of the employee, and one (1) by the Recipient, and these two, if unable to agree within thirty (30) days upon the valuation, shall endeavor by agreement with ten (10) days thereafter to select a third appraiser or to agree to a method by which a third appraiser shall be selected, and failing such agreement, either party may request the State or local Board of Real Estate Commissioners to designate within ten (10) days a third appraiser, whose designation will be binding upon the parties and who jurisdiction shall be limited to determination of the issues raised in this paragraph only. A decision of a majority of the appraisers shall be required and said decision shall be final, binding and conclusive. The compensation and expenses of the neutral appraiser, including expenses of the appraisal board, shall be borne equally by the parties to the proceedings. All other expenses shall be paid by the party incurring them, including the compensation of the appraiser selected by such party.

(d) Except as otherwise provided in paragraph (11)(b) hereof, changes in place of residence, subsequent to the initial changes as a result of the Project, which are not a result of the Project but grow out of the normal exercise of seniority rights, shall not be considered within the purview of this paragraph.

(e) "Change in residence" means transfer to a work location which is either (A) outside a radius of twenty (20) miles of the employee's former work location and farther from his residence than was his former work location, or (B) is more than thirty (30) normal highway route miles from his residence and also farther from his residence than was his former work location.

(13) A dismissed employee entitled to protection under this agreement may, at his option within twenty-one (21) days of his dismissal, resign and (in lieu of all other benefits and protections provided in this agreement) accept a lump sum payment computed in accordance with section (9) of the Washington Job Protection Agreement of May 1936:

Length of Service	Separation Allowance
1 year and less than 2 years	3 months' pay
2 " " " " 3 "	6 " "
3 " " " " 5 "	9 " "
5 " " " " 10 "	12 " "
10 " " " " 15 "	12 " "
15 " " over	12 " "

In the case of an employee with less than one year's service, five days' pay, computed by multiplying by 5 the normal daily earnings (including regularly scheduled overtime, but excluding other overtime payments) received by the employee in the position last occupied, for each month in which he performed service, will be paid as the lump sum.

(a) Length of service shall be computed as provided in Section 7(b) of the Washington Job Protection Agreement, as follows:

For the purposes of this agreement, the length of service of the employee shall be determined from the date he last acquired an employment status with the employing carrier and he shall be given credit for one month's service for each month in which he performed any service (in any capacity whatsoever) and twelve (12) such months shall be credited as one year's service. The employment status of an employee shall not be interrupted by furlough in instances where the employee has a right to and does return to service when called. In determining length of service of an employee acting as an officer or other official representative of an employee organization, he will be given credit for performing service while so engaged on leave of absence from the service of a carrier.

(b) One month's pay shall be computed by multiplying by 30 the normal daily earnings (including regularly scheduled overtime, but excluding other overtime payments) received by the employee in the position last occupied prior to time of his dismissal as a result of the Project.

(14) Whenever used herein, unless the context requires otherwise, the term "protective period" means that period of time during which a displaced or dismissed employee is to be provided protection hereunder and extends from the date on which an employee is displaced or dismissed to the expiration of six (6) years therefrom, provided, however, that the protective period for any particular employee during which he is entitled to receive the benefits of these provisions shall not continue for a longer period following the date he was displaced or dismissed than the employee's length of service, as shown by the records and labor agreements applicable to his employment prior to the date of his displacement or his dismissal.

(15) (a) In the event there arises any labor dispute with respect to the protection afforded by this agreement, or with respect to the interpretation, application or enforcement of the provisions of this agreement, not otherwise governed by Section (12) (c) hereof, the Labor-Management Relations Act, as amended, Railway Labor Act, as amended, or by impasse resolution provisions in a collective bargaining or protective agreement involving the Recipient and the union, which cannot be settled by the parties thereto within thirty (3) days after the dispute or controversy arises, it may be submitted at the written

request of the Recipient or the union to a board of arbitration to be selected as hereinafter provided. One arbitrator is to be chosen by each interested party, and the arbitrators thus selected shall endeavor to select a neutral arbitrator who shall serve as chairman. Each party shall appoint its arbitrator within five (5) days after notice of submission to arbitration has been given. Should the arbitrators selected by the parties be unable to agree upon the selection of the neutral arbitrator within ten (10) days after notice of submission to arbitration has been given, then the arbitrator selected by any party may request the American Arbitration Association to furnish, from among members of the National Academy of Arbitrators who are then available to serve, five (5) arbitrators from which the neutral arbitrator shall be selected. The arbitrators appointed by the parties shall, within five (5) days after the receipt of such list, determine by lot the order of elimination and thereafter each shall, in that order, alternately eliminate one name until only one name remains. The remaining person on the list shall be the neutral arbitrator. If any party fails to select its arbitrator within the prescribed time limit, the highest officer of the Union or of the Recipient or their nominees, as the case may be, shall be deemed to be the selected arbitrator, and the board of arbitration shall then function and its decision shall have the same force and effect as though all parties had selected their arbitrators. Unless otherwise provided, in the case of arbitration proceedings, under paragraph (5) of this agreement, the board of arbitration shall meet within fifteen (15) days after selection or appointment of the neutral arbitrator and shall render its decision within forty-five (45) days after the hearing of the dispute has been concluded and the record closed. The decision by majority vote of the arbitration board shall be final and binding as the decision of the arbitration board, except as provided in subparagraph (b) below. All the conditions of the agreement shall continue to be effective during the arbitration proceedings.

(b) In the case of any labor dispute otherwise covered by subparagraph (a) but involving multiple parties, or employees of urban mass transportation employers other than those of the Recipient, which cannot be settled by collective bargaining, such labor dispute may be submitted, at the written request of any of the parties to this agreement involved in the dispute, to a single arbitrator who is mutually acceptable to the parties. Failing mutual agreement within (10) days as to the selection of an arbitrator, any of the parties involved may request the American Arbitration Association to furnish an impartial arbitrator from among members of the National Academy of Arbitrators who is then available to serve. Unless otherwise provided, in the case of arbitration proceedings under paragraph (5) of this agreement, the arbitrator thus appointed shall convene the hearing within fifteen (15) days after his selection or appointment and shall render his decision within forty-five (45) days after the hearing of the dispute or controversy has been concluded and the record closed. The decision of the neutral arbitrator shall be final, binding, and conclusive upon all parties to the dispute. All the conditions of the agreement shall continue to be effective during the arbitration proceeding. Authority of the arbitrator shall be limited to the determination of the dispute arising out of the interpretation, application, or operation of the provisions of this agreement. The arbitrator shall not have any authority whatsoever to alter, amend, or modify any of the provisions of any collective bargaining agreement.

(c) The compensation and expenses of the neutral arbitrator, and any other jointly incurred expenses, shall be borne equally by the parties to the proceeding and all other expenses shall be paid by the party incurring them.

(d) In the event of any dispute as to whether or not a particular employee was affected by the Project, it shall be his obligation to identify the Project and specify the pertinent facts of the Project relied upon. It shall then be the Recipient's burden to prove that factors other than the Project affected the employee. The claiming employee shall prevail if it is established that the Project had an effect upon the employee even if other factors may also have affected the employee (Hodgson's Affidavit in Civil Action No. 825-71).

(e) Nothing in this agreement shall be construed to enlarge or limit the right of any party to utilize, upon the expiration of any collective bargaining agreement or otherwise, any economic measures which are not inconsistent or in conflict with applicable laws or this agreement.

(16) Nothing in this agreement shall be construed as depriving any employee of any rights or benefits which such employee may have under any existing job security or other protective conditions or arrangements by collective bargaining agreement or law where applicable, including P. L. 93-236, enacted January 2, 1974; provided that there shall be no duplication of benefits to any employees, and, provided further, that any benefit under the agreement shall be construed to include the conditions, responsibilities, and obligations accompanying such benefit.

(17) The Recipient shall be financially responsible for the application of these conditions and will make the necessary arrangements so that any employee affected as a result of the Project may file a claim through his union representative with the Recipient within sixty (60) days of the date he is terminated or laid off as a result of the Project, or within eighteen (18 months of the date his position with respect to his employment is otherwise worsened as a result of the Project; provided, in the latter case, if the events giving rise to the claim have occurred over an extended period, the 18-month limitation shall be measured from the last such event; provided, further, that no benefits shall be payable for any period prior to six (6) months from the date of the filing of the claim. Unless such claims are filed with the Recipient within said time limitations, the Recipient shall thereafter be relieved of all liabilities and obligations related to said claims. The Recipient will fully honor the claim, making appropriate payments, or will give notice to the claimant and his representative of the basis for denying or modifying such claim, giving reasons therefor. In the event the Recipient fails to honor such claim, the Union may invoke the following procedures for further joint investigation of the claim by giving notice in writing of its desire to pursue such procedures. Within ten (10) days from the receipt of such notice, the parties shall exchange such factual material as may be requested of them relevant to the disposition of the claim and shall jointly take such steps as may be necessary or desirable to obtain from any third party such additional factual material as may be relevant. In the event the claim is so rejected by the Recipient, the claim may be processed to arbitration as hereinabove provided by paragraph (15). Prior to the arbitration hearing, the parties shall exchange a list of intended witnesses. In conjunction with such proceedings, the impartial arbitrator shall have the power to subpoena witnesses upon the request of any party and to compel the production of documents and other information denied in the pre-arbitration period which is relevant to the disposition of the claim.

Nothing included herein as an obligation of the Recipient whall be construed to relieve any other urban mass transportation employer of the employees covered

hereby of any obligations which it has under existing collective bargaining agreements, including but not limited to obligations arising from the benefits referred to in paragraph (10) hereof, nor make any such employer a third-party beneficiary of the Recipient's obligations contained herein, nor deprive the Recipient of any right of subrogation.

(18) During the employee's protective period, a dismissed employee shall, if he so requests, in writing, be granted priority of employment to fill any vacant position within the jurisdiction and control of the Recipient, resonably comparable to that which he held when dismissed, for which he is, or by training or retraining can become, qualified; not, however, in contravention of collective bargaining agreements relating thereto. In the event such employee requests such training or re-training to fill such vacant position, the Recipient shall provide for such training or re-training at no cost to the employee. The employee shall be paid ther salary or hourly rate provided for in the applicable collective bargaining agreement for such position, plus any displacement allowance to which he may be otherwise entitled. If such dismissed employee who has made such request fails, without good cause, within ten (10) days to accept an offer of a position comparable to that which he held when dismissed for which he is qualified, or for which he has satisfactorily completed such training, he shall, effective at the expiration of such ten-day period, forfeit all rights and benefits under this agreement.

As between employees who request employment pursuant to this paragrpah, the following order where applicable shall prevail in hiring such employees:

(a) Employees in the craft or class of the vacancy shall be given priority over employees without seniority in such craft or class;

(b) As between employees having seniority in the craft or class of the vacancy, the senior employees, based upon their service in that craft or class, as shown on the appropriate seniority roster, shall prevail over junior employees;

(c) As between employees not having seniority in the craft or class of the vacancy, the senior employees, based upon their service in the crafts or classes in which they do have seniority as shown on the appropriate seniority rosters, shall prevail over junior employees.

(19) This agreement shall be binding upon the successors and assigns of the parties hereto, and no provisions, terms, or obligations herein contained shall be affected, modified, altered or changed in any respect whatsoever by reason of the arrangements made by or for the Recipient to manage and operate the system.

Any such person, enterprise, body, or agency, whether publicly- or privagely-owned, which shall undertake the management or operation of the system, shall agree to be bound by the terms of this agreement and accept the responsibility for full performance of these conditions.

(20) The employees covered by this agreement shall continue to receive any applicable coverage under Social Security, Railroad Retirement, Workmen's Compensation, unemployment compensation, and the like. In no event shall these benefits be worsened as a result of the Project.

(21) In the event any provision of this agreement is held to be invalid, or otherwise unenforceable under the federal, State, or local law, in the context of a particular Project, the remaining provisions of this agreement shall not be affected and the invalid or unenforceable provision shall be renegotiated by the Recipient and the interested union representatives of the employees involved for purpose of adequate replacement under §13(c) of the Act. If such negotiation shall not result in mutually satisfactory agreement, any party may invoke the jurisdiction of the Secretary of Labor to determine substitute fair and equitable employee protective arrangements for application only to the particular Project, which shall be incorporated in this agreement only as applied to that Project, and any other appropriate action, remedy, or relief.

(22) This agreement establishes fair and equitable employee protective arrangements for application only to federal operating assistance Projects under §§3(h) and 5 of the Act and shall not be applied to other types of assistance under §5 or under other provisions of the Act, in the absence of further understandings and agreements to that effect.

(23) The designated Recipient, as hereinabove defined, signatory hereto, shall be the sole provider of mass transportation services to the Project and such services shall be provided exclusively by employees of the Recipient covered by this agreement, in accordance with this agreement and any applicable collective bargaining agreement. The parties recognize, however, that certain of the recipients signatory hereto, providing urban mass transportation services, have heretofore provided such services through contracts by purchase, leasing, or other arrangements and hereby agree that such practices may continue. Whenever any other employer provides such services through contracts by purchase, leasing, or other arrangements with the Recipient, or on its behalf, the provisions of this agreement shall apply.

(24) An employee covered by this agreement, who is not dismissed, displaced, or otherwise worsened in his position with regard to his employment as a result of the Project, but who is dismissed, displaced, or otherwise worsened solely because of the total or partial termination of the Project, discontinuance of Project services, or exhaustion of Project funding, shall not be deemed eligible for a dismissal or displacement allowance within the meaning of paragraphs (6) and (7) of this agreement.

(25) If any employer of the employees covered by this agreement shall have rearranged or adjusted its forces in anticipation of the Project, with the effect of depriving an employee of benefits to which he should be entitled under this agreement, the provisions of this agreement shall apply to such employee as of the date when he was so affected.

(26) Any eligible employer not initially a party to this agreement may become a party by serving written notice of its desire to do so upon the Secretary of Labor, the American Public Transit Association, or its designee, and the unions signatory hereto, or their designee. In the event of any objection to the addition of such employer as a signatory, then the dispute as to whether such employer shall become a signatory shall be determined by the Secretary of Labor.

(27) In the context of a particular Project, any other union which is the collective bargaining representative of urban mass transportation employees in

the service area of the Recipient, and who may be affected by the assistance to the Recipient within the meaning of 49 U.S.C.A. 1609(c), may become a party to this agreement as applied to the Project, by serving written notice of its desire to do so upon the other union representatives of the employees affected by the Project, the Recipient, and the Secretary of Labor. In the event of any disagreement that labor organization should become a party to this agreement, as applied to the Project, then the dispute as to whether such labor organization shall participate shall be determined by the Secretary of Labor.

(28) This agreement shall be effective and be in full force and effect for the period from November 26, 1974 to and including September 30, 1977. It shall continue in effect thereafter from year to year unless terminated by the A.P.T.A. or by the national labor organizations signatory hereto upon one hundred twenty (120) days' written notice prior to the annual renewal date. Any signatory employer or labor organization may individually withdraw from the agreement effective October 1, 1977, or upon any annual renewal date thereafter, by serving written notice of its intention so to withdraw one hundred twenty (120) days prior to the annual renewal date; provided, however, that any rights of the parties hereto or of individuals established and fixed during the term of this agreement shall continue in full force and effect, notwithstanding the termination of the agreement or the exercise by any signatory of the right to withdraw therefrom. This agreement shall be subject to revision by mutual agreement of the parties hereto at any time, but only after the serving of a sixty (60) days' notice by either party upon the other.

(29) In the event any project to which this agreement applies is approved for assistance under the Act, the foregoing terms and conditions shall be made part of the contract of assistance between the federal government and the Recipient or other applicant for federal funds; provided, however, that this agreement shall not merge into the contract of assistance but shall be independently binding and enforceable by and upon the parties thereto, in accordance with its terms, nor shall any other employee protective agreement nor any collective bargaining agreement merge into this agreement, but each shall be independently binding and enforceable by and upon the parties thereto, in accordance with its terms.

6.3 Union Work Rules Agreement, Rochester, New York

In the Rochester, New York Integrated Demand-Responsive Transit Demonstration, the drivers working on the demonstration were from the existing fixed-route transit service. They were covered by the work rules set aside in the labor contract between Regional Transit Service, Inc. and the Amalgamated Transit Union, Division 282. However, the fixed-route transit work rules were not directly transferable to demand-responsive transit (DRT) service per se; therefore, special provisions and exceptions needed to be made in order to make them more flexible, and thus adaptive to DRT service. The following is an excerpt from the labor contract, which outlines such special provisions applicable to the drivers who opted to participate in the demonstration project;

> 61. DIAL-A-RIDE DEMONSTRATION PROJECT
>
> It is understood by the parties that this is a demonstration project, the duration of which shall be determined by agreement between the Company and the Federal and/or State Governments. To implement this project, it is hereby provided that except as specifically modified in this section, all provisions of the Agreement shall be applicable to all employees participating in this project.
>
> It is understood and agreed that operators will pick for participation in this project ONCE A YEAR effective in the month of January, and that they will remain within the project throughout the calendar year.
>
> It is further agreed and understood that separate vacation picks will prevail for those operators working in the DIAL-A-RIDE Project.
>
> The company shall not hire any new employees specifically for this project. New employees hired shall take their place on the bottom of the seniority list. Only personnel about to be displaced as a result of termination of the project will be furloughed. Furloughs will be made on the basis of the last man hired, first man off.
>
> It is further understood and agreed that both parties are committed to the meaningful and constructive implementation of this project. To this end and recognizing that it is one of the first such projects in the United States, the parties agree that if during its term, conditions make it necessary to make some special provisions applicable only to employees involved in the project, then the parties shall negotiate in a good-faith effort to resolve such issues. *
>
> * Excerpt taken from: "Agreement between Regional Transit Service, Incorporated and Amalgamated Transit Union, Division 282, Rochester, New York, Effective November 1, 1974," pp. 29-30.

Before a follow-up demonstration began, the ATU requested in a November 1977 letter to the Department of Labor, that additional language be inserted in the federal contract of assistance as follows:

I. Employees of RTS will continue to provide dial-a-bus services in Greece and Irondequoit under and in accordance with their collective bargaining agreement between RTS and Local Union 282, Amalgamated Transit Union, AFL-CIO.

II. RTS will make a good-faith effort to bid on new dial-a-bus service to be instituted by the project amendment. In the event RTS gets the work by bid, employees of RTS will provide said service under and in accordance with their collective bargaining agreement between RTS and Local Union 282.

III. (a) It shall be an obligation of the Public Body, for the duration of the Project, to assure that any and all such dial-a-bus services are contracted for and operated under such restrictions and limitations as may be necessary or desirable to prevent these services from competing with, becoming a substitute for, or displacing conventional transit routes and services now or hereafter provided by employees of RTS represented by the Union, including, but not limited to, suburban service and "owl" (late) runs.

(b) All maintenance work on the mini bus and vans used in the Project (except warranty services, emergency repairs, and first echelon maintenance service, such as fueling, inflating tires, etc.) shall be performed at RTS's maintenance facilities by employees represented by the Union.

(c) The Public Body will provide to the Union on a regular and continuing basis for the duration of the Project, copies of the reports, if any, submitted to UMTA concerning Project activities and results, together with

any other Project documentation relative to the administration, application, or enforcement of this employee protection arrangement.

(d) In implementing the Project, the Public Body has the obligation to insure that Project services are strictly limited to those persons described in the Project application whose daily work trips are not served by transit routes and services presently being rendered by the Public Body.

(e) Upon allegation by the Union that any dial-a-bus services by the Public Body, or any third-party private operator, are being operated or maintained in violation of these arrangements, the Public Body shall promptly investigate the claim and take any steps necessary or appropriate to remedy any violation found.

IV. In the event of a dispute over the interpretation, application, or enforcement of these Sec. 13(c) employee protection arrangements, such dispute may be submitted by either the Public Body or Local Union 282, Amalgamated Transit Union, AFL-CIO, to arbitration in accordance with the procedures contained in the May 3, 1974 Sec.13(c) agreement negotiated by and between RTS and Local Union 282, incorporated herein by reference.

V. At the conclusion of the Project amendment's demonstration period, the Public Body will take all steps possible to insure that, if dial-a-bus services in the original communities and/or the new communities are continued or additional areas are added, RTS employees represented by Local Union 282 shall perform all continued or additional dial-a-bus service whether or not federal funding to continue or add services is used.

Our agreement to modify the terms and conditions in the contract of assistance outlined above is conditioned on (a) your immediate written receipt of notice from the applicant that it is in full agreement with these modifications; and (b) your records reflect the understanding that this arrangement is based on special circumstances and will not serve as a precedent in any future paratransit determination under Sec. 13(c).

6.4 Service Contract Between Orange County Transit District in California and Private Operator

Dial-A-Ride Management Inc. received a contract from the District to provide a dial-a-ride system for the City of Orange. Two sections of interest in the contract as reproduced here are the use of incentive fees and Exhibit A, the scope of work to be undertaken.

AGREEMENT

This Agreement entered into this 7th day of April, 1975, by and between the ORANGE COUNTY TRANSIT DISTRICT, hereinafter referred to as "DISTRICT," and "DIAL-A-RIDE MANAGEMENT, INC." hereinafter referred to as "MANAGER."

WITNESSETH:

WHEREAS, MANAGER has the management, technical, and operating personnel, and other assets useful for the operation of a Dial-A-Ride System in Orange County, California; and

WHEREAS, DISTRICT is desirous of obtaining such personnel services for the management and operation of such a Dial-A-Ride System; and

WHEREAS, MANAGER is desirous of providing such services;

NOW, THEREFORE, in consideration of the foregoing recital and covenants and agreements of each of the parties herein set forth, the parties hereto agree as follows:

1. DISTRICT hereby contracts with MANAGER to manage and operate a Dial-A-Ride System in the City of Orange, California, hereinafter referred to as "Dial-A-Ride System," pursuant to the terms and conditions hereinafter set forth.

2. MANAGER will provide the services set forth in Exhibit A (Scope of Work), attached hereto and by reference incorporated herein and made a part hereof.

(more text, ...)

6. The maximum total cost to DISTRICT, including allowable costs, fixed fee, incentive fee I, and incentive fee II, for services of MANAGER performed pursuant to this Agreement, shall not exceed five hundred eighteen thousand eight hundred fifteen ($518,815). MANAGER agrees to perform the services as set forth in this Agreement within the agreed maximum total cost limitation. The individual categories of costs which constitute the maximum total cost, including separate maximums for certain cost categories where specified, are as follows: .....

B. Fixed Fee

DISTRICT agrees to pay MANAGER the sum of twenty-three thousand nine hundred forty-five dollars ($23,945) as a fixed fee for all services performed by MANAGER under this Agreement. Payment of the fixed fee shall be as follows: one thousand dollars ($1,000) for each month of service completed under this Agreement, and the sum of eleven thousand nine hundred forty-five dollars ($11,945) following completion of one year's revenue service under this Agreement.

C. Incentive Fee I

MANAGER shall receive an incentive fee not to exceed twenty-two thousand four hundred dollars ($22,400) computed as follows: seven cents ($.07) per revenue and transfer passenger carried by the Dial-A-Ride System per calendar month.

D. Incentive Fee II

MANAGER shall receive an incentive fee, if any, not to exceed the amount by which the total of allowable costs plus this Incentive Fee II during the first year of revenue service is less than four hundred seventy-two thousand four hundred seventy dollars ($472,470) computed as follows: fifteen cents ($.15) per revenue and transfer passenger in excess of three hundred twenty thousand (320,000) total revenue and transfer passengers carries by the Dial-A-Ride System during the first year of revenue service. MANAGER hereby agrees that if MANAGER earns any money under this Incentive Fee II, then no less than fifty percent (50%) of said money shall be paid by

MANAGER to the drivers, controllers and supervisor of the Dial-A-Ride System pursuant to a bonus plan to be developed by MANAGER and approved by DISTRICT.

EXHIBIT A
SCOPE OF WORK

Task I -- Project Organization

Establish supervisor and controllers in suitable office/control center facilities provided by the participating municipality or DISTRICT. Provide and/or obtain any office supplies, services, and equipment not supplied by the municipality or DISTRICT.

The participating municipality or DISTRICT will provide and furnish the project and control center facilities, and certain services, as follows: furnished office space, and parking spaces for project staff and visitors and vehicles.

Task II -- Service Specifications

Key locations for transfers with fixed routes and pick-up points in shopping centers and other commercial and residential developments will be arranged by MANAGER. Certain key locations will be established by MANAGER with DISTRICT consent and help with direct phone lines, seats, and possible shelters, bus stop signs, and curb painting as required. Submit key location recommendations to DISTRICT for approval. All manager personnel will familiarize selves with all DISTRICT operations. DISTRICT will provide maps and schedules of all other services.

Task III -- Preparation

Prepare the control center and the operating system for service start in cooperation with designated DISTRICT consultant. DISTRICT will furnish all vehicles, radio equipment, and partial furnishings for control center. Establish maintenance contracts for vehicle and set-up maintenance program commensurate with DISTRICT maintenance policy and instructions from bus manufacturer. Procure control center supplies not supplied by DISTRICT. Prepare key locations. Recruit and hire additional control staff and drivers as required after initial hiring with DISTRICT approval.

Preparation for this service comprises those tasks required to make the system operational, with the exception of initial training and advertising. Site data collected will include: Traffic congestion and road conditions (obtained from municipality); running times in the service area; location of churches, schools, hospitals, shopping centers, etc. on the control map.

Specific written permission will be obtained from shopping centers and private complexes to enter their parking area to pick-up and deliver passengers.

Control center equipment and supplies will be procured and installed (radio equipment excepted). Supplies will include all necessary forms, small maps, trip tickets, trip pieces, and vehicle indicators. If participating municipality cannot furnish, then MANAGER will furnish an up-to-date large control map of the service area showing all street names and block numbers.

Control staff and drivers will be recruited through local ads, employment agencies, and minority aid groups. Applicants will be tested, interviewed, and trained by DISTRICT consultant prior to hiring. Wages and hours will be in accord with the local, county, and state regulations affecting labor. Every attempt will be made to hire minorities and, to the extent practicable, have one Spanish speaking person in the control center at all times.

Task IV -- Advertising and Sales Promotion

DISTRICT will control all advertising and sales promotion, and provide materials from DISTRICT's other transit services for distribution by MANAGER. Initial and continuing promotion of the service will be provided under DISTRICT direction and approval. MANAGER will distribute advertising and promotional material provided by DISTRICT.

Task V -- System Operation

Manage the operation of the system in accordance

with the procedures established in Tasks 2 and 3, and in DISTRICT operating policies provided by DISTRICT consultant and local ordinances applicable to this service.

Management of the day to day operations of the system will be vested in the Site Supervisor, an experienced employee of the MANAGER. In addition, a responsible senior employee of the MANAGER will be available at all times, either by phone or in person to make decisions or provide coordination as necessary. Initial service shall be based on a twelve hour operational day (7:00 am to 7:00pm), six days a week utilizing 17 vehicles maximum on the road at one time. Three of these vehicles will be spare vehicles. It is possible that this level of service will be changed as demand patterns develop and experience is gained in operation.

Drivers will be responsible for reporting to Supervisor hazardous trees and signs in the service area. Supervisor, in turn, will inform the City of Orange who will trim trees and check signs.

All malfunctioning equipment in the control system, which includes the control center (excepting the base radio and remote terminal) and all radio units, will be repaired or replaced as necessary. Similarly, all personnel whose performance is deficient will be retrained or replaced as necessary.

Operations tasks will include fare accounting and deposit in local bank. Weekly reports and a check covering revenues will be mailed to DISTRICT.

Task VI -- Data Collection and Reporting

Follow procedures established by DISTRICT consultant and collect data on the operational system. Prepare monthly status report on the project and include pertinent operational data when service commences. DISTRICT will supply MANAGER with forms to fill out weekly and monthly. Quarterly reports will be more detailed, the contents of which will be determined by DISTRICT. All reports to be submitted to DISTRICT in duplicate--monthly reports by the 10th of the month and quarterly reports by the 20th of the month following the reporting period. All reports will be typewritten and duplicated at lowest possible cost following DISTRICT format. Any changes in procedures will be announced in the monthly report along with suggestions for changes in procedures.

Data collection will be limited to that data immediately available from the operational system on a day-to-day basis. Data collected daily will include: Estimated ridership; mileage; revenues; cost of maintenance including gas, oil, repairs, and cleaning. Data collected on the sample basis for the quarterly report will include: Wait and travel times; variance from promised pick-up time; level of service, passengers per vehicle per hour (individually and as an average). Data will be furnished to DISTRICT. Analyses of data will be operationally oriented. Monthly status reports will be brief, factual descriptions of project progress by task. Problems will be highlighted along with suggested solutions. Special reports will be submitted to DISTRICT as necessary. These may be written or oral, formal or informal, as is appropriate.

All reports prepared by MANAGER shall be made available to DISTRICT at no charge but shall be owned by MANAGER. The monthly reports are excluded from this provision and shall be owned by DISTRICT. MANAGER may make presentations and releases relating to the Dial-A-Ride system only upon permission of DISTRICT. Papers and other formal publications shall be approved by DISTRICT before they are released.

Task VII -- Management and Liaison

Direct the project development and revenue operations of the system in accordance with the procedural guidelines furnished by DISTRICT consultant and good management practices. Obtain DISTRICT approval for major system or service changes. Establish and implement sound accounting procedures for the service. Coordinate closely with DISTRICT, participating municipalities, and DISTRICT consultant on project and operation status and particularly on any changes affecting them. MANAGER will be responsible for theft

by his employees of farebox revenues and equipment.

Attend staff meetings with DISTRICT as scheduled. Perform liaison activities with DISTRICT, the participating municipality, neighboring cities, other transportation modes and companies.

Presentations to visitors will be carefully controlled and determined by DISTRICT. Manpower to make presentations will be strictly limited. Visitors will not be permitted to interfere with operations. Appointments for visits will be made in advance and approved by DISTRICT before the visitors arrive. Permission for visitors will be reasonably justified.

6.5

6.5 Cleveland Regional Transit Authority (RTA)-Amalgamated Transit Union Work Agreement

The Cleveland RTA and local ATU signed a unique agreement for their Community Responsive Transit system (CRT): one-third of the available RTA tax-generated funds would be contracted out to private operators and the remaining two-thirds would go toward employing in-house ATU members. Identified in the agreement were a different wage rate, different work rules, hours, and equipment.

MEMORANDUM OF UNDERSTANDING AND AGREEMENT BETWEEN GREATER CLEVELAND REGIONAL TRANSIT AUTHORITY AND LOCAL 268 AMALGAMATED TRANSIT UNION MODIFYING THE CONDITIONS OF EMPLOYMENT TO PROVIDE FOR OPERATION OF CRT VEHICLES

It has been agreed by the parties that the CRT funds will be split with 1/3 used to provide taxicab contracted service to areas of lower density and 2/3 used to provide service manned by RTA (Amalgamated) personnel serving areas of higher density. (Contracted service may include vehicles other than taxicabs.) With an estimate of 45 vehicles required in the first year of operation, this should result in approximately 18 taxis and 27 RTA vehicles.

It has been agreed that a new classification, CRT Operator, will be established. The CRT operator will operate a vehicle with seating capacity less than 30 passengers, with or without a wheelchair lift. (In the event that RTA takes over operation of the county vehicles for mentally retarded, the operation of those vehicles would come under this classification.)

It has been agreed that the rate for the CRT operator will be established at $4.40 per hour. This rate is 69% of the present RTA operators' rate and it was agreed that a differential of 31% will be maintained for a minimum of 5 years.

All of the provisions of Article I of the Conditions of Employment will apply to the CRT operators. (Including vacations, holidays, insurance, pensions, etc.)

Unless and until specifically negotiated between the parties, the provisions of Article II of the Conditions of Employment shall not apply to these employees except as indicated below.

1. a. At the outset of the program, CRT operators and extras will be guaranteed 30 hours of work per week of five days.
   b. In the event that a contract is entered into with Cuyahoga County for transporting the mentally retarded, that work shall be combined with the CRT work. At that time, a 40-hour weekly guarantee will apply.
2. Seniority provisions shall apply.
3. CRT operators shall have the right to pick schedules a minimum of two (2) times per year.
4. CRT operators shall have an opportunity to qualify for regular RTA operator work after a minimum of one year of service as a CRT operator.
5. Daily, weekly and day off overtime provisions shall apply.
6. The uniform provision shall apply.
7. Article II, Section 9, cancellation of assignment, provision shall apply.

CRT work and regular RTA work will not be combined on the schedules. CRT controllers will be regular RTA Grade 5 personnel.

(signed by ATU and RTA on April 26, 1976)

7.0 FUNDING

7.1 Local Sources

In communities where there is local political support for demand-responsive services, funding has been provided through local property tax revenues, federal revenue sharing funds and Community Development Block Grants. Revenue-sharing funds appropriated in fiscal year 1974 amounted to $46 billion (the State and Local Fiscal Assistance Act of 1972). "State and local governments are allowed broad use of available funds. Two of eight suggested priority categories are 'Public Transportation' and 'Social Services for the Poor or Aged.' In the period between January 1972 and the end of June 1973, these two categories accounted, respectively, for 15% and 3% of funds expended..." (Reference 141)

7.2 State Sources

At the state level, funding can come from matching federal share programs, or through separate state supported programs. The facing exhibit is adapted from a study of small city transit (in cities less than 200,000 population) to show the types of capital, operating (as well as technical assistance available) (Reference 153). Most states provide transit aid to large metropolitan areas (over 200,000 population) usually stipulating the same comprehensive planning requirements needed to qualify for federal funding.

7.2.1 California LTF Program

California has developed a Local Transportation Fund (LTF), pursuant to Senate Bill 325 of the Transportation Development Act, that is primarily supported by ¼ of one percent of the State sales tax. Capital and operating expense funds are available to any community or public agency that provides or operates a public transit service, and are awarded to regional planning organizations on a population basis. Certain rules of funding apply:

STATE TRANSPORTATION FINANCIAL AID TO SMALL CITIES

(Less than 200,000 population and not part of a large metropolitan area)

CAPITAL ASSISTANCE	Number	States
Type of Aid		
Provides aid only to projects without federal funds:	2	Minnesota
	2	Wisconsin
Provides aid only to match UMTA grants		
--Provides 100% of non-federal funds	1	Oregon
--Provides 85% of non-federal funds	1	Virginia
--Provides 75% of non-federal funds	2	New York; Maryland
--Provides 67% of non-federal funds	1	Pennsylvania
--Provides 50% of non-federal funds	5	Georgia; Indiana;
	10	North Carolina; Ohio, Tennessee
Provides aid to both federally-aided and non-federally aided projects:		
--Grants share of sales tax	1	California
--Provides 100% of non-federal funds*	4	Connecticut; Michigan; New Jersey; West Virginia
--Provides 67% of non-federal funds	1	Illinois
--Provides 50% of non-federal funds	2	Florida; Washington
--Provides 65% of non-federal funds	1	Texas
	9	
Total:	21	

* Note: Does not include Rhode Island which has a state-wide transit agency. All percentages are for state share of local match for federally-aided projects.

OPERATING ASSISTANCE		
Type of Aid		
Matches UMTA grants only:		
--Provides 50% of non-federal share	1	Indiana
--Provides aid in varying amounts	1	Maryland
	2	
Provides aid regardless of federal participation:		
--Aid distributed by formula based on population and transit-related variables such as vehicle-miles traveled	5	California; Michigan; Connecticut; Montana; New York
--Provides 67% of non-federal share or 67% of deficit for non-federal projects	4	Illinois; Minnesota; Pennsylvania; Wisconsin
--Provides 50% of non-federal share or 50% of deficit for non-federal projects	2	Nebraska; Washington
--Provides aid in varying amounts	2	New Jersey; West Virginia
	13	
Total:	15	

*NOTE: Capital aid to small cities is also provided by 14 of these states. Rhode Island, which has a statewide transit agency, is not included. Funding specifically directed to social service agencies is not included. The source of most states' assistance was general revenue funds.

(Source: Summary of State Aid Programs, Reference 153)

- After the first five years of funding, a minimum of 15 percent must be applied to capital expenses, or
- A local tax must provide the 15 percent local portion.
- LTF monies may not exceed 50 percent of the system's annual operating budget, after the deduction of approved federal grants.
- Five percent of the money can be specifically earmarked for community transit services.

AVAILABLE TECHNICAL ASSISTANCE AT THE STATE LEVEL (1974)

TYPE OF PROGRAM	NUMBER	STATE
Grant Applications	20	Alabama, Alaska, Arkansas, Colorado, Delaware, Georgia, Iowa, Kansas, Maine, Maryland, Minnesota, Mississippi, Missouri, Montana, New Hampshire, North Dakota, Oregon, Rhode Island, South Carolina, Texas
Advisory Capacity	7	Arizona, Nebraska, New Jersey, Oklahoma, Oregon, Utah, Virginia
Planning	22	Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Indiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New Jersey, North Dakota, Ohio, South Dakota, Vermont, Wisconsin, Wyoming
Marketing/Management	10	California, Florida, Hawaii, Illinois, Maine, Massachusetts, Michigan, Minnesota, New York, Wisconsin
UMTA Section 9 Matching Funds	9	Connecticut, Delaware, Illinois, Kentucky, New Mexico, North Carolina, Pennsylvania, Tennessee, Washington
TOTAL:	68*	

*Note: Total number reflects the fact that several states offer more than one technical assistance program.

(Source: Summary of State Aid Programs, Reference 153)

To apply for LTF money, each California transit operator must submit an application to the Comprehensive Planning Organization for review and evaluation. The Southern California Association of Governments (SCAG) developed the following checklist of necessary application forms; the checklist includes the Public Transportation Claim Form, which is required of any operation applying for LTF money.

Checklist of Application Forms, California Local Transportation Fund

1. Public Transportation Claim Form
2. Governing Body Authorization
3. Proposed Budget
4. Justification Statement-Operating Budget
5. Description of Major Capital Projects
6. Financial Statement
7. Maintenance of Local Effort Worksheet
8. Employee Requirement System-Certification Statement
9. Proposed Commitment Statement
10. Capital Expenditure Requirement Worksheet
11. Cooperative Agreement or Contract

PUBLIC TRANSPORTATION CLAIM FORM
FY 1978-79

(Southern California Association of Governments)

A. TYPE OF CLAIM: ( ) Article 4
( ) Article 4.5
( ) Article 8

B. CLAIMANT:

C. COUNTY LTF:

D. AMOUNT CLAIMED:

E. PURPOSE:
1. ( ) Article 4 Support of Public Transportation System (99260(a))
2. ( ) Article 4.5 Community Level Transit Service (99275)
3. ( ) Article 8 Payments for Contract Public Transportation Service (99400(c))
4. ( ) Article 8 Multimodal Transportation Terminal (99400.5)
5. ( ) Other (specify)_____

F. CONTRIBUTION TO TRANSPORTATION PLANNING PROCESS:
1. SCAG $_____
2. Subregional $_____
a. Subregional Transportation Planning Agency:_____

G. METHOD OF PAYMENT: Please transmit payments on a _____ basis to recipient noted in Section J.

H. CONDITION OF APPROVAL: Approval of this claim and payment by the County Auditor to this claimant are subject to monies being available, and to the provision that such monies will be used only in accordance with the allocation instructions.

I. SIGNATURE OF AUTHORIZED REPRESENTATIVE/CONTACT:

(Signature)

(Print or Type Name)

(Title)

(Address)

(Phone Number) (Date Signed)

J. PAYMENT RECIPIENT:

(Claimant)

(Mailing Address)

(City and Zip Code)

(Attention-Name and Title)

SCAG USE ONLY

1. CLAIM NO.
2. DATE APPROVED
3. APPROVED FOR PAYMENT
4. APPROVED FOR RESERVE
5. TOTAL ALLOCATED
6. APPROVED BY (INT.)

(Source: SCAG, Reference 152)

7.2.2
7.2.3

7.2.2 Minnesota Demonstration Program

Minnesota has set aside $4.5 million for an 18-month Paratransit Demonstration Program. They hope to fund up to 30 projects for a one-year period, ranging from vanpools to DAB and shared-ride taxi services. After that time, each project is considered individually as a candidate for continuing state and local funding programs.

7.2.3 Michigan's DART Program

Michigan's Dial-a-Ride Transportation (DART) program has been inspirational for many states in the process of establishing assistance to local transit operations. An outline of the program is included here.

MICHIGAN'S DIAL-A-RIDE TRANSPORTATION (DART) PROGRAM

A. Capital Assistance

1. Source: 100% state funded (gas tax, loan, bond issue).

2. Use of funds: Dial-A-Ride (DART) systems for small cities with no public transportation.

3. Amount: $1.7 million in Fiscal Year 1976.

B. Operating Assistance

1. Source: State gas tax.

2. Use of funds: Total operating expenses paid for the first year of a new DART system or an expansion of service, less a $1,000 local commitment. In subsequent years, state will supply approximately one-third of operating deficit, based on formula allocations.

C. Technical Assistance

1. Source: State-provided aid for community technical needs, including:

-Writing grant applications and contracts.

-Planning, designing and implementing system; training staff to operate, monitor, and modify service.

-Planning services for elderly and handicapped in selected localities.

-Developing Dial-A-Ride marketing programs.

(Source: Adapted from TSC, Reference 153)

7.3 Federal Assistance

Paratransit has been looked upon as a funding stepchild by the National Mass Transportation Assistance Act in awarding grants. The National Mass Transportation Assistance Act of 1974 will make available, over a six-year period, $12 billion in aid to all forms of public transportation. Capital grants (UMTA Section 3) and Capital and Operating Assistance (UMTA Section 5) are programmed for $7.8 billion and $4 billion respectively. As Kirby et al. (Reference 1) pointed out, capital grant money has always gone to conventional bus and rail services. It is only in the past few years that any capital grant money has been expended on paratransit services. Funds for demonstration projects for dial-a-ride have amounted to $7.4 million, or 3.5% of the total RD&D funds for 1966-1973 (Reference 150).

Instead of receiving federal support, operating assistance monies generally must be pried loose from a transit district or regional transit authority which may be committed to a conventional system. Moreover, private taxi operators--who provide most of the existing paratransit services--are not eligible for direct federal operating grants.

On the other hand, there is growing interest in paratransit at the federal level, as indicated in the growth of research and demonstration funding in paratransit projects and the proposed federal policy on paratransit. There are still constraints on federal funding, however, in terms of eligibility of operators and labor protection legislation.

7.3.1 Federal Assistance Forms

In order to qualify for Section 5 operating assistance, the following Federal Assistance Application and attached Budget Information forms (and instructions) must be completed and submitted to UMTA's Office of Transit Assistance.

PREAPPLICATION FOR FEDERAL ASSISTANCE

Note: Part I is the multi-purpose Standard Federal Assistance Application form on preceding page.

OMB NO. 80-R0187

PART II – PROJECT BUDGET

FEDERAL CATALOG NUMBER (a)	TYPE OF ASSISTANCE LOAN, GRANT, ETC. (b)	TOTAL (c)
1.		
2.		
3.		
4.		
5.		
6. Total Federal Contribution		$
7. State Contribution		
8. Applicant Contribution		
9. Other Contributions		
10. Totals		$

PART III – PROGRAM NARRATIVE STATEMENT

Attach separate sheets to describe Project activities as specified in instructions.

(Source: UMTA, Reference 154)

OMB Approval No. 29-R0218

FEDERAL ASSISTANCE

2. APPLICANT'S APPLICATION	a. NUMBER	3. STATE APPLICATION IDENTIFIER	a. NUMBER
	b. DATE Year month day 19		b. DATE ASSIGNED Year month day 19

1. TYPE OF ACTION (Mark appropriate box)
- ☐ PREAPPLICATION
- ☐ APPLICATION
- ☐ NOTIFICATION OF INTENT (Opt.)
- ☐ REPORT OF FEDERAL ACTION

Leave Blank

SECTION I—APPLICANT/RECIPIENT DATA

4. LEGAL APPLICANT/RECIPIENT
- a. Applicant Name :
- b. Organization Unit :
- c. Street/P.O. Box :
- d. City : e. County :
- f. State : g. ZIP Code:
- h. Contact Person (Name & telephone No.) :

5. FEDERAL EMPLOYER IDENTIFICATION NO.

6. PROGRAM (From Federal Catalog)
- a. NUMBER
- b. TITLE

7. TITLE AND DESCRIPTION OF APPLICANT'S PROJECT

8. TYPE OF APPLICANT/RECIPIENT
A-Stete, B-Interstate, C-Substate District, D-County, E-City, F-School District, G-Special Purpose District, H-Community Action Agency, I- Higher Educational Institution, J- Indian Tribo, K-Other (Specify):
Enter appropriate letter ☐

9. TYPE OF ASSISTANCE
A-Basic Grent, B-Supplementel Grant, C-Loan, D-Insurance, E-Othor
Enter appropriate letter(s) ☐☐

10. AREA OF PROJECT IMPACT (Names of cities, counties, States, etc.)

11. ESTIMATED NUMBER OF PERSONS BENEFITING

12. TYPE OF APPLICATION
A-New, B-Renewal, C-Revision, D-Continuation, E-Augmentation
Enter appropriate letter ☐

13. PROPOSED FUNDING

a. FEDERAL	$	.00
b. APPLICANT		.00
c. STATE		.00
d. LOCAL		.00
e. OTHER		.00
f. TOTAL	$	.00

14. CONGRESSIONAL DISTRICTS OF:
- a. APPLICANT
- b. PROJECT

15. PROJECT START DATE Year month day 19

17. PROJECT DURATION Months

18. ESTIMATED DATE TO BE SUBMITTED TO FEDERAL AGENCY ▶ Year month day 19

15. TYPE OF CHANGE (For 12c or 12e)
A-Increase Dollars, B-Decrease Dollars, C-Increase Duration, D-Decrease Duration, E-Cancellation, F-Other (Specify):
Enter appropriate letter(s) ☐☐☐

19. EXISTING FEDERAL IDENTIFICATION NUMBER

20. FEDERAL AGENCY TO RECEIVE REQUEST (Name, City, State, ZIP code)

21. REMARKS ADDED ☐ Yes ☐ No

SECTION II—CERTIFICATION

22. THE APPLICANT CERTIFIES THAT ▶

a. To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved.

b. If required by OMB Circular A-95 this application was submitted, pursuant to instructions therein, to appropriate clearinghouses and all responses are attached:

	No response	Response attached
(1)	☐	☐
(2)	☐	☐
(3)	☐	☐

23. CERTIFYING REPRESENTATIVE
- a. TYPED NAME AND TITLE
- b. SIGNATURE
- c. DATE SIGNED Year month day 19

SECTION III—FEDERAL AGENCY ACTION

24. AGENCY NAME

25. APPLICATION RECEIVED Year month day 19

26. ORGANIZATIONAL UNIT

27. ADMINISTRATIVE OFFICE

28. FEDERAL APPLICATION IDENTIFICATION

29. ADDRESS

30. FEDERAL GRANT IDENTIFICATION

31. ACTION TAKEN
- ☐ a. AWARDED
- ☐ b. REJECTED
- ☐ c. RETURNED FOR AMENDMENT
- ☐ d. DEFERRED
- ☐ e. WITHDRAWN

32. FUNDING

a. FEDERAL	$	.00
b. APPLICANT		.00
c. STATE		.00
d. LOCAL		.00
e. OTHER		.00
f. TOTAL	$	.00

33. ACTION DATE ▶ Year month day 19

34. STARTING DATE Year month day 19

35. CONTACT FOR ADDITIONAL INFORMATION (Name and telephone number)

36. ENDING DATE Year month day 19

37. REMARKS ADDED ☐ Yes ☐ No

38. FEDERAL AGENCY A-95 ACTION

a. In taking above action, any comments received from clearinghouses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made.

b. FEDERAL AGENCY A-95 OFFICIAL (Name and telephone no.)

7.3.1

4-74

(Source: UMTA, Reference 154)

PART III – BUDGET INFORMATION

Page 1

OMB NO 80 R0 185

SECTION A – BUDGET SUMMARY

Grant Program, Function or Activity (a)	Federal Catalog No. (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non Federal (f)	Total (g)
1.		$	$	$	$	$
2.						
3.						
4.						
5. TOTALS		$	$	$	$	$

SECTION B – BUDGET CATEGORIES

6. Object Class Categories	Grant Program, Function or Activity				Total (5)
	(1)	(2)	(3)	(4)	
a. Personnel	$	$	$	$	$
b. Fringe Benefits					
c. Travel					
d. Equipment					
e. Supplies					
f. Contractual					
g. Construction					
h. Other					
i. Total Direct Charges					
j. Indirect Charges					
k. TOTALS	$	$	$	$	$
7. Program Income	$	$	$	$	$

(Source: UMTA, Reference 154)

7.3.1

PART III – BUDGET INFORMATION

Page 2

OMB NO. 80-RO186

SECTION C – NON-FEDERAL RESOURCES

(a) GRANT PROGRAM	(b) APPLICANT	(c) STATE	(d) OTHER SOURCES	(e) TOTALS
8.	$	$	$	$
9.				
10.				
11.				
12. TOTALS	$	$	$	$

SECTION D – FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$	$	$	$	$
14. Non-Federal					
15. TOTAL	$	$	$	$	$

SECTION E – BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) GRANT PROGRAM	FUTURE FUNDING PERIODS (YEARS)			
	(b) FIRST	(c) SECOND	(d) THIRD	(e) FOURTH
16.	$	$	$	$
17.				
18.				
19.				
20. TOTALS	$	$	$	$

SECTION F – OTHER BUDGET INFORMATION

(Attach additional Sheets if Necessary)

21. Direct Charges:

22. Indirect Charges:

23. Remarks:

(Source: UMTA, Reference 154)

Form OMB 80-RO-186: Part III - Budget Information

This two-page form, including Section A-F, is required in all applications for Section 5 operating assistance. A blank copy which can be reproduced and used by applicants is attached. (Attachment III-3.)

(NOTE: This form must accompany Form 424 in each application. Instructions and sample copies of Form 424 are detailed in the preceding section.)

Instructions for preparing the Part III - Budget Information forms are detailed below:

Section A - Budget Summary

1. This form was originally developed to accommodate applications for Federal assistance under more than one program. For Section 5 operating assistance applications, only lines 1 and 5 will be used.
2. In Column (a), enter "operating assistance".
3. In Column (b), enter 20.507.
4. Leave Columns (c) and (d) blank; these do not apply to Section 5 operating assistance projects.
5. In Column (e), enter the amount of Section 5 operating assistance requested.
6. In Column (f), enter the amount of local share.
7. In Column (g), enter the sum of the two preceding entries.

Section B - Budget Categories

1. This form was originally developed to accommodate applications for Federal assistance under more than one program. For Section 5 operating assistance applications, only columns (1) and (5) will be used.
2. Enter the amount of eligible transit operating expenses for the project period on line (k).
3. To the extent possible, analyze the amount entered on line (k) among the expense categories on lines (a) through (j).
4. Enter the amount of revenue applied against eligible transit operating expenses which is not includable as local share (e.g., farebox revenues) on line (7).

Section C - Non-Federal Resources

1. This form was originally developed to accommodate applications for Federal assistance under more than one program. For Section 5 operating assistance applications, only lines 8 and 12 will be used. On line 8 in column (a) enter: Section 5 operating assistance.
2. The purpose of this section is to analyze the sources of local share. Enter the total local share in column (e). This amount should equal the amount entered in Section A, column (f).
3. Analyze the amount entered in column (e) among the source categories in columns (b), (c) and (d). These amounts should conform to the information entered in Item #13 on Form 424.

Section D - Forecasted Cash Needs

1. In the column labeled "Total for 1st year" enter the amounts of Section 5 operating assistance requested, the amount of local share, and the total on lines 13, 14 and 15, respectively.
2. In the remaining columns, allocate the amounts shown in the first column to indicate the estimated drawdown of Federal funds during the project period. Quarters refer to Project Year quarters.

Section E - Budget Estimates of Federal Funds Needed for Balance of the Project

This section does not apply to Section 5 operating assistance projects. Leave blank.

Section F - Other Budget Information

Use this section to provide additional information needed to clarify entries in the preceding sections, if any.

(Source: UMTA, Reference 154)

7.3.2 Directory of Federal Transportation Agencies

The following list of Urban Mass Transportation Administration contacts in the Washington, D.C. and regional field offices can be used as a reference guide for soliciting additional information and applications for federal funding and assistance programs.

(A) Office of Grants Assistance (Section 3, 5 and 9)

Room 9306
Office of Transit Assistance
Urban Mass Transportation Administration
400 Seventh Street, S.W.
Washington, DC 20590

Contacts: Regions I, III, IV --

c/o Richard H. Doyle
(202)472-2440

Regions II, X --

c/o James E. Davis
(202)472-6973

Regions V, VI --

c/o Chief
(202)472-6994

Regions VI, VII, IX --

c/o Robert W. Stout
(202)472-7037

(B) Office of Program Analysis

For Section 16(b)(2) information, contact

c/o David Witter
(202)472-6997

(C) Office of Service and Methods Demonstration (Section 6)
Urban Mass Transportation Administration
400 Seventh Street, S.W.
Washington, DC 29590

Contact: Ronald F. Fisher, Director
Room 6412
(202)426-4995
or
James Bautz
Paratransit and Special User Groups Division
Room 6419
(202)426-4984

(D) Office of Transit Management
Urban Mass Transportation Administration
Trans Poin Building
2100 2nd Street, S.W.
Washington, D.C. 20590

(E) UMTA Field Offices

Region:

I Peter N. Stowell, Regional Director
Transportation Systems Center
Kendall Square
55 Broadway
Cambridge, MA 02142
(617) 494-2055

II Ken Vought, Regional Director
Suite 1811
26 Federal Plaza
New York, NY 10007
(212) 264-8162

III Franz K. Gimmler, Regional Director
Suite 1010
434 Walnut Street
Philadelphia, PA 19106
(215) 597-4179

IV Doug Campion, Regional Chief
Suite 400
1720 Peachtree Road, N. W.
Atlanta, GA 30309
(404) 881-3948

V Theodore Weigle, Regional Director
Suite 1740
300 S. Wacker Drive
Chicago, IL 60606
(312) 353-0100

VI Glen Ford, Regional Chief
Suite 9A32
819 Taylor Street
Fort Worth, TX 76102
(817) 334-3787

VII Lee Waddleton, Regional Chief
Room 303
6301 Rock Hill Road
Kansas City, MO 64131
(816) 926-5053

VIII Lou Mraz, Regional Director
Suite 1822
Prudential Plaza
1050-17th Street
Denver, CO 80202
(303) 837-3242

IX Dee Jacobs, Regional Director
Suite 620
Two Embarcadero Center
San Francisco, CA 94111
(415) 556-2884

X F. William Fort, Regional Chief
Suite 3106
Federal Building
915 Second Avenue
Seattle, WA 98174
(206) 442-4210

URBAN MASS TRANSPORTATION ADMINISTRATION REGIONS

8.0 FUTURE GROWTH OF PARATRANSIT

Demand-responsive transit has grown rapidly in the past few years, playing an important role in meeting certain community-wide transit needs (see exhibit on next page). It is not clear whether the S-shaped curves of growth represent the actual pattern of growth (suggesting that future growth will proceed more slowly), or whether the time lag in identifying new systems has caused the reduction in speed of adoption in recent years.

While long-range forecasts are somewhat uncertain, demand-responsive paratransit appears to have a bright growth potential for the immediate future. Many small and rural communities are contemplating their first transit services; larger metropolitan areas are beginning to integrate fixed-route transit and paratransit systems as they realize that no single mode or technology can efficiently serve their many different transit needs.

8.1 The Short-Term Forecast

8.1.1 Measures Used

The short-term forecast for demand-responsive paratransit was made from a survey of the 245 Municipal Planning Organizations (MPO's) throughout the United States. One hundred and eighteen organizations responded with the Annual Elements of their Transportation Improvement Programs (TIP's) as well as some supplementary DRT plans; the responding organizations are listed in Appendix 12 Federal regulations require each community desiring federal monies to identify each proposed project and anticipated funding sources and levels in their Transportation Improvement Programs. Although TIP identification is only required for federally-funded projects, many state and locally-assisted DRT services were included in this review. In addition to MPO responses, fifty-four existing paratransit operations provided information regarding their future plans in response to a separate survey.

Information on future plans was categorized according to general market, target market, dial-a-bus, and shared-ride taxi. In the short term, the mix of categories can be expected to continue the current trend; that is, a majority providing DAB services with an emphasis on target market services. It is also reasonable to assume that these services will be installed in the types of areas which have exhibited considerable paratransit growth in recent years.

The TIP analysis also discussed the following choices for future service plans:

1. No existing or proposed DRT services;
2. Continue or maintain existing DRT service;
3. Expand existing DRT service;
4. Initiate a new DRT service; and
5. Initiate planning and/or feasibility studies.

While the number of future paratransit services is probably the best indicator of DRT growth potential, it can be somewhat misleading. For example, today there may be three separate systems operating within one county or region; if these services choose to coordinate or integrate operations, only one system may emerge. While this appears to be a decrease in service on paper, it may actually reflect an expanded level of transit service in the field.

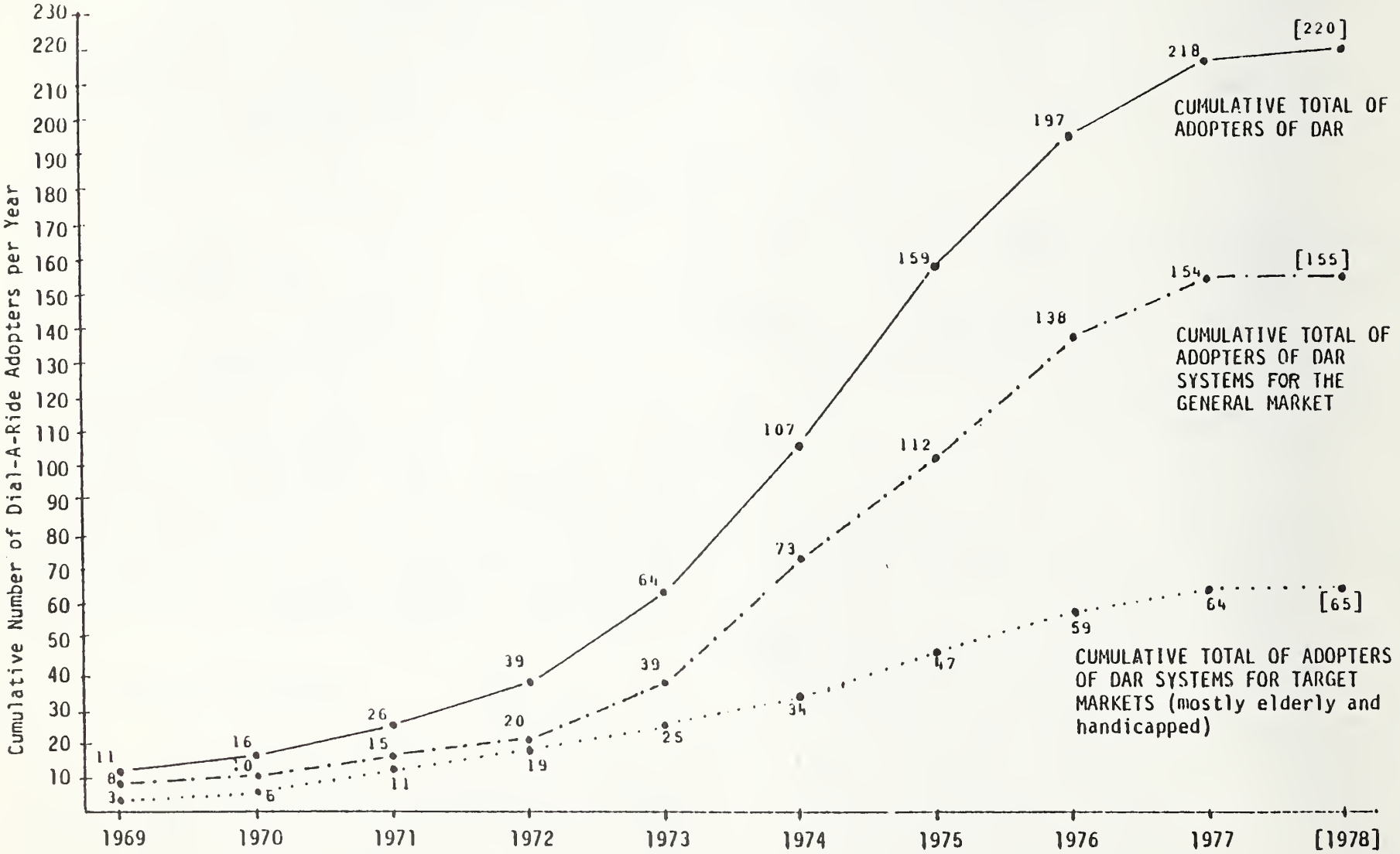
8.1.2 Conclusions

Of the future services identified in the exhibit below, 28% are new services projected for implementation within the next two years. Current operators are also experimenting and planning to improve their services, as approximately 55% of the existing services propose to continue or expand their hours of service, service areas, or to purchase additional

8.1

CUMULATIVE NUMBER OF ADOPTERS

OF DIAL-A-RIDE IN THE U.S. BY YEAR



Source: Stanford, Reference 260

ANALYSES OF FUTURE DRT SERVICES

	Number of Responses	Percent of Responses
No service	18	7
Continue existing DRT service	47	19
Expand existing DRT service	89	36
Initiate new DRT service	69	28
Initiate studies	24	10
Total	247*	100

*Multiple responses possible.

vehicles and equipment to meet growing demand. Only 17% of all the MPO respondents had no current DRT service, and more than half of these respondents had demand-responsive planning and feasibility studies underway or proposed within their Annual Element (1978-79).

This data analysis generally reflects a growing interest in DRT service. Thus, assuming a statistically valid MPO sample, and based on the existing number of services identified in the system documentation (refer to Appendix 4), demand-responsive transit forecasters can anticipate a 27% growth rate within the next several years.

8.2 Long-Range Projections

There are several existing projections of the long-term future growth of paratransit. One recent approach by A.M. Voorhees and Associates, Inc. (Reference 258) assessed the prospects of paratransit, under the assumption of moderate automobile disincentives, as a function of socioeconomic characteristics of several sample communities and projects its use to 1995. This study estimated that in urban residential areas, paratransit services (excluding conventional taxi but including subscription, elderly and handicapped, and other demand-responsive services) will carry over 20 million passengers daily, compared to about 10 million on conventional bus transit, as shown on the following page.

Estimates of current bus ridership show approximately five million passenger rides (Reference 11), so the projected growth would represent a 100 percent increase. This seems to be an unreasonably high conventional transit projection, based on the previous ridership

ASSESSMENT OF A PORTION OF 1995 TRANSIT/PARATRANSIT ACTIVITY BASED ON URBAN RESIDENTAL AREAS ONLY

Population Category and Service Concept	Daily Passengers (millions)	Daily Cost of Operations ($millions)	Vehicles Required (thousands)
80 Million Directly Represented			
DRT	7.40	8.5	61.0
Prearranged E&H	2.50	1.9	16.6
Conventional Taxi	2.50	1.9	16.6
Conventional Transit (Bus Only)	4.10	3.6	15.9
TOTAL	14.34	15.3	104.2
110 Million in Other Areas (Range)			
DRT	9-11	10-13	70-100
Prearranged E&H	3-4	2-4	20-25
Conventional Taxi	2-3	8-12	50-75
Conventional Transit (Bus Only)	5-7	4-6	20-25
	19-25	24-35	160-225
Total Urban Residential Area Generated Activity (Range)	33-39	39-50	265-330

NOTES:

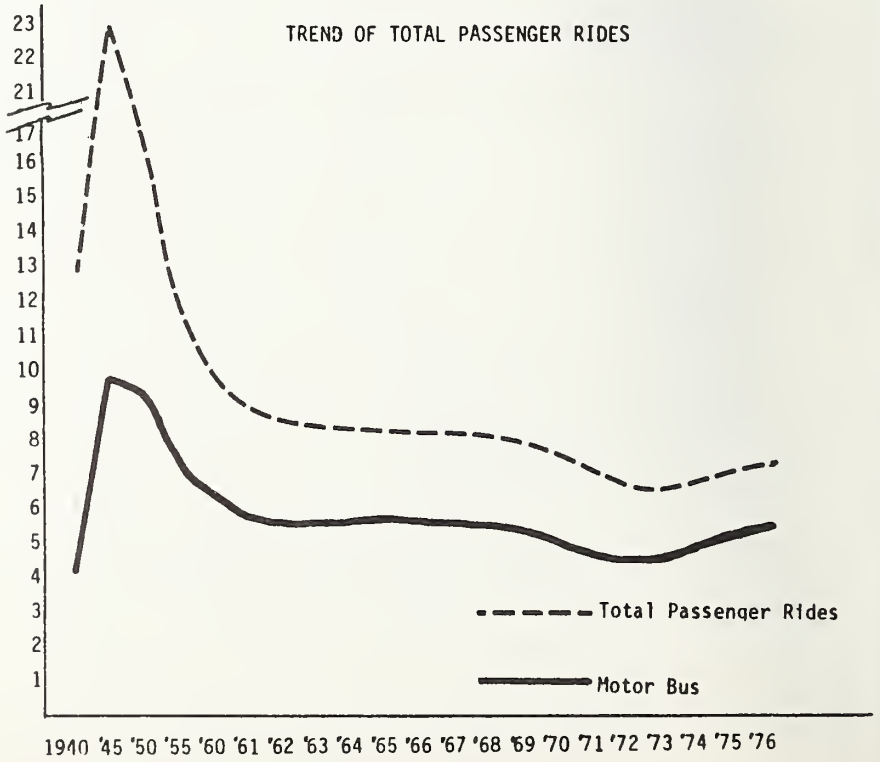
1. Data based on Moderate Auto Disincentives Future.
2. Commercial center and non-home-based taxi use is not included.
3. In the "110 Million Other" estimates, conventional taxi use is assumed understated in the settings and a significant increase allowed.
4. Not all urban area human service transportation (E&H, etc.) is included; also, spare vehicles are not included.

Source: Voorhees Reference 258

trend data reflected in the exhibit. Although the historical data on demand-responsive services is limited, these estimates seem high, and should thus be considered as an upper bound for the long-range future.

The long-range element of the TIP's reflect a continued yet slower growth rate, as DRT services expand, tap, and eventually saturate their potential markets.

Whether these long-range projections are reasonable depends on a number of factors still to be determined. Among the factors that will affect paratransit growth are exogenous events, state and local political perceptions and actions, the ability to resolve institutional and federal policy impediments, as well as certain technological developments. Each of these factors is discussed on the following pages.



Source: APTA, Reference 11

8.2.1 Exogenous Events

The exogenous event most likely to affect the future of paratransit use is the prospective depletion of the supply of petroleum fuels. Barring technological breakthroughs in vehicular energy sources, the virtually unconstrained use of the personal automobile will no longer be a way of life. This, accompanied by the automobile disincentive and transit preference techniques being implemented by local governments, should stimulate the demand for paratransit. Because of the new trips induced by paratransit service and the low productivity of most paratransit systems (except pooling and subscription services), it is unlikely that the sum total of paratransit growth to date has had a measurable impact on total vehicle-miles traveled (VMT). Nonetheless, an energy shortage could attract sufficient paratransit patrons to cause a future decrease in VMT.

In a similar way, air pollution can have a significant impact on future transportation options. There has been a recent trend toward relaxation of air quality standards, particularly for power plants that shift from petroleum-based fuels to coal. The net impact of the large-scale shift back to coal will be a reduction in air quality. The most likely source for compensating reductions in air pollutants is through some restrictions on the use of motor vehicles This could also lead to rapid paratransit growth.

8.2.2 State and Local Actions

The perceptions and resulting actions of state and local government levels will have a profound impact on paratransit growth. The rapid development of paratransit systems in the State of Michigan in response to state-provided start-up funding demonstrates the potential impact of these programs. Minnesota is currently initiating a state demonstration program, and California's legislation provides funds which can be used for community transit. Asking how many states might initiate such programs is equivalent to asking how many states have elected officials who will stake some portion of their political fate on promoting paratransit. The question is unanswerable, but it seems likely that the concept of state programs will grow.

Automobile disincentives and preferential treatment programs for transit represent local actions that are already encouraging the shift from automobile to transit. Land use is often perceived as the major factor in determining a community's character, and hence is a politically sensitive element which is not subject to rapid change. While MPO's may develop plans extolling the virtues of higher density in suburban areas, local governments do not respond positively to changes in zoning ordinances. Thus, if new suburbs are likely to look much the same as existing suburbs, the demand for paratransit services may grow as these outlying low-density communities initiate local neighborhood or feeder demand-responsive services. In Regina, Saskatchewan, land use planning programs are attempting to coordinate inner-city and suburban development through Telebus and fixed-route bus transfer stations.

Future target-market services will be affected by the growing political power of the transit-dependent. The influence of these groups on local decisions has already become a major factor in establishing special transit services to meet their needs. Not only can paratransit systems be designed to meet the unique requirements of the transit-dependent, but the TIP projections identified target-market/DAB services as having the greatest growth potential. These factors, combined with local pressures, should continue to stimulate the long-term growth of target-market services.

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8.2.3 Institutional Impediments and Federal Policy

Many of the institutional impediments to paratransit are intertwined with federal policy--especially funding, coordination and labor policy. Since about two-thirds of the 119 existing systems from which data was obtained do not receive federal funding, and hence are not subject to federal constraints, it is likely that paratransit will grow without federal funding and hence regardless of federal policy. However, if there were major breakthroughs in the ability to coordinate existing social service agency transport or in funding or labor-related issues, operators would probably look more favorably toward federal support for paratransit, especially in the more densely-populated areas where coordination or integration with other transit is possible.

Previous experience showed that the federal "elderly and handicapped" legislation spurred the development of specialized equipment and transit services. The current explicit policy of providing accessibility to fixed-route transit systems may reduce the motivation for paratransit systems as a means of serving the elderly and handicapped. It is likely that future changes in federal policy could also affect paratransit growth.

8.2.4 Availability of Funding

The major negative factor which may suppress the growth of paratransit is the availability of funding for subsidies. The recent tendency of the electorate to vote for tax limitations will have an effect on paratransit as available funds are claimed by essential services, leaving a severe shortage for discretionary services such as paratransit. The extent and impact of these limitations is yet to be determined.

8.2.5 Technological Changes

Battery-powered vehicles, new vehicle designs, computerized dispatching, and portable communications devices are a few of the technological improvements which may aid user access to and improve the reliability, comfort and cost-effectiveness of paratransit. The price of such advanced equipment is expected to drop as this technology becomes more widely accepted. Thus, the future potential of computerized demand-responsive transit systems may grow, especially if labor costs and problems continue to increase These changes could certainly affect the future character and development of paratransit.

8.2.6 Conclusions

The long-range projections made by Voorhees identify a hypothetical potential for paratransit growth. Until the uncertainties of funding and other contingencies (such as policies and exogenous events) are resolved, these projections should be considered to represent an optimistic upper bound on growth potential.

8.3 Summary

Extrapolations of the recent growth of paratransit and the implementation of funding and other programs suggests that there is a growing realization that paratransit has a role to play in the spectrum of transit services. The rate of future growth of these services depends on a number of factors, including government action at all levels and the availability of fossil fuels. One factor that may slow this growth is the rebellion against taxes and government expenditures.

Based on impressions gained in developing these Guidelines, the authors feel that the paratransit systems most likely to experience future growth are target market services for the elderly and handicapped and limited-doorstop services for the general market. These limited-doorstop services (i.e., route-deviation, checkpoint deviation, many-to-few and many-to-one services) are potentially more productive than traditional door-to-door dial-a-bus or shared-ride taxi service for the general market, and are expected to grow more rapidly.

The reason for this assessment is that a door-to-door service for the elderly and handicapped is the only service that provides real mobility for this market. Hence, if communities truly wish to serve the elderly and handicapped, paratransit systems must be seriously considered. For the general market, door-to-door services are relatively expensive on a per-ride basis, and operators will attempt to reduce these costs by offering the more economical limited-doorstop services.

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GLOSSARY A2

The following terms were compiled and identified according to government and transit industry standards as well as to their generally accepted usage within the transportation field. Where several definitions were found for a single item, the definition most commonly associated with the paratransit industry was used; the terminology adapted by some individual or by specific services and systems may vary.

This glossary was developed for use as a basic source of reference for the guidelines. However, a number of conventional transportation terms not specifically mentioned in the guidelines were included to assist decisionmakers, planners, and others unfamiliar with transit industry jargon. This listing may be useful for general reference purposes.

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Access time: Time it takes for a customer to move from trip origination point to a point where the transit system can be boarded, usually by walking.

Administrative costs: Costs associated with management of transit system; total expense of all labor, materials, facilities, equipment, and fees associated with general office functions, legal services, safety, and insurance.

Advance reservation: Demand-responsive transit service that is requested for a future specified time.

Algorithm: Set of rules used in mathematical computations.

Annual element (AE): List of transportation improvement projects proposed for implementation during the first program year of the Transportation Improvement Program (TIP).

APTA: American Public Transit Association (U.S. and Canada).

Areawide service: Transportation services provided throughout an entire area or region (with respect to both origin and destination).

Arrival time: Time at which customer reaches destination (either directly by door-to-door DRT service or after walking from a bus stop). See Vehicle Arrival Time.

Assessed wait time: In travel time calculations for demand-responsive transportation, an assumed value used to represent average wait time.

Attitudinal survey: A questioning and examining of users of transportation facilities to identify psychological factors in regard to transportation services.

ATU: Amalgamated Transit Union; largest transit union.

Authority: Transportation authority responsible to sponsor. Governmental agency or corporation responsible for administering transportation services.

Automatic fare collection (AFC): Controls and equipment which automatically admit passengers upon presentation of fare (e.g., coins, tokens, or farecards). System may also include special equipment for transporting and counting the revenues.

Automatic interfacing: Process of conveying customer requests for demand-responsive transportation service to control center via digital communication in lieu of voice communications.

Automatic vehicle monitoring (AVM): Process of sensing and collecting information on vehicle location via electronic communication equipment; sometimes referred to as automatic vehicle identification or automatic vehicle location system.

Average cost per passenger: Total costs per vehicle-hour divided by the average person-trips/vehicle-hour.

Average fare: Passenger revenue divided by total number of fare-paying riders.

Average productivity: Number of person-trips carried by a typical single vehicle in the system for a given period of time. This can be determined for the peak-hour, off-peak period, or for the entire day of operation. Productivity can then be related to the rate at which fares are collected. Also referred to as vehicle utilization.

Average revenue per one-way person-trip: Passenger revenue divided by revenue passengers; also referred to as average fare.

Average ridership: Average total number of passengers carried by each type of transit service; this can be for daily, weekly, monthly, or yearly periods.

Basic fare: Full fare paid by one person for one transit ride excluding any additional transfer or zone changes.

Block grants: Aid directed at broadly or functionally defined purposes, placing greater reliance on state and local initiative, e.g., HUD's Community Development Block Grant (CD) and DOL's Comprehensive Employment and Training Program (CETA).

Boarding time: Period of time a vehicle is stopped to allow passengers and/or packages to be loaded and unloaded.

Broker: Organization which identifies and matches potential users' needs with available transportation services. Although a broker usually operates no services directly, it may provide advice, information, technical, financial, organizational as well as regulatory and institutional assistance.

Buspool: Prearranged shared-ride service, generally using paid drivers contracted on a regular basis with origins, destinations and schedules determined by the users (typically A.M. and P.M. work or school trips); also referred to as subscription bus service.

Callback: Demand-responsive transit service telephone operator's notification to customer that vehicle is arriving on schedule or will be delayed.

Call-in time: Time at which telephone request for service is received at control center.

Call rate: Total number of telephone requests within a specified period of time, such as per hour or per day.

Cancellation: Incident in DRT service where a customer requesting service calls up and cancels request prior to bus arrival.

Capacity: See Vehicle Capacity.

Capital costs: Fixed expenses associated with initiating transit operations, including the purchase of land, vehicles, facilities and equipment.

Captive riders: Transit passengers who, due to circumstances beyond their control, have no other means of transportation.

Carpool: Prearranged shared-ride paratransit system using private automobiles owned by one or more of the riders, who usually alternate drivers and vehicles for commuting between proximate origins and destinations.

C.A.R.S.: Computer-Aided Routing Systems, used by MIT Urban Systems Laboratory to designate its project on demand-responsive transportation.

Central business district (CBD): Usually the downtown retail trade area of a city with a concentration of retail business offices, theaters, hotels and service businesses. Generally an area of very high land valuation and heavy traffic flow.

C.E.T.A.: Department of Labor's Comprehensive Employment and Training Act of 1973.

Charter service: Hiring or leasing of vehicle(s) and driver(s) for specific occasion(s).

Checkpoint service: Demand-responsive transit service in which passengers are picked up or dropped off at specific predetermined locations rather than at any point in the service area.

Choice riders: Passengers who choose transit even though they have alternative modes (e.g. automobile) available for their use.

Commuter service: Transit service operated primarily during peak hours to meet needs of those who travel regularly between home and work.

Computer-aided system: Demand-responsive transportation service in which some, but not all, control center functions are performed using a computer.

Computerized dispatching: Condition in which the assignment of demand-responsive transit customers to vehicles and the scheduling of vehicles is done by electronic equipment using a predetermined algorithm.

Control center: In demand-responsive transit systems, the facility handling communications with passengers and communications with and dispatching of vehicles.

Controller: Individual responsible for demand-responsive transit service's control center functions (e.g., telephone operator, scheduler, dispatcher).

Coordinated dispatching: A centralized process that assigns passengers to vehicles using procedures intended to balance cost efficiency and timely service.

Conventional bus: Intraurban transit service where vehicle travels a fixed route, operates on a fixed schedule and passengers board and disembark at predetermined stops.

Conventional transit: Regularly scheduled, fixed-route intraurban passenger transportation services, such as bus or rail, available to the public.

Coordination: The bringing together of a number of social service and/or other community agencies in order to cooperatively develop a transportation system to serve all of their combined needs.

Cost per passenger: Performance measure which indicates cost-effectiveness, by relating total transit service expenses to vehicle productivity.

CRT: Cathode-ray tube like a television tube, for use in information display.

Daily demand: Total number of requests for service per day or ridership per day.

Daily rental car: Paratransit service characterized by the leasing or hiring of automobiles by rental agreement, usually for periods less than a year.

Daily vehicle log: Diary used by the vehicle drivers and managers to record daily operating conditions and activities.

D.A.R.T.: Acronym for (1) Dial-A-Ride Transit, name of demand-responsive transportation service in Stratford, Ontario; (2) Demand-Activated Road Transit, name used by the Institute of Public Administration; (3) Dynamically Activated Road Transit; (4) name of Michigan DOT demand-responsive transportation services.

Data element: The smallest unit of information; the measurement of one variable.

Deadheading time: Non-revenue vehicle travel time, such as a transit vehicle returning to the garage.

Dead spots: In radio communications, certain locations or geographical areas where vehicles cannot send or receive communications; typically caused by topographic or structural obstructions.

Deferred service: Demand-responsive transit service request for a single trip to occur at specified later time.

Delivery time: Time at which customer disembarks from a vehicle.

Demand-activated (actuated) system: Vehicles which move only in response to requests for a trip or ride; demand-responsive transit system.

Demand density: Indicator of the spatial, temporal or proportional distribution of users of a variable-route transportation service, usually expressed as daily passengers carried per square mile of area served per hour of vehicle operation (pass./sq.mi./hr.), and sometimes daily passengers per 1000 population.

Demand-responsive transportation: Generic term for range of public transportation services characterized by the flexible routing and scheduling of relatively small vehicles to provide shared-occupancy, personalized transportation on demand; implies existence of a coordinated dispatching service; also called flexible-route service.

Destination: The point at which a trip terminates.

Deterministic model: Macromodels that typically treat the stochastic aspects of system performance with deterministic approximations grounded in geometric probability relationships.

Deviation from checkpoint: Demand-responsive transportation service which makes regular scheduled stops at designated checkpoints but is free to provide door-to-door service between checkpoints.

Deviation from route: Demand-responsive transportation service in which a normally fixed-route bus will leave the route upon request (within a defined service area) to serve patrons not on the fixed route.

Dial-a-bus (DAB): Form of shared-ride demand-responsive transportation in which users typically telephone a control center for service and a bus is then dispatched to pick them up and deliver them to their destinations; popular name for demand-responsive transportation service.

Dial-a-ride: Term commonly used for demand-responsive transportation services.

Digital communications: Electronic transmitting and receiving of data in a digital form.

Disaggregate models: Paratransit micromodels which focus on individual tripmakers or socioeconomic groups.

Dispatcher: Person employed in demand-responsive transit system to relay pick-up and drop-off instructions and related service information to vehicle drivers; usually via a 2-way radio.

Dispatching: In demand-responsive transportation systems, process of relaying service instructions to drivers. May include vehicle scheduling, routing and monitoring, and can be manual, or partly or fully automated.

Door-through-door service: Door-to-door service that includes aiding the passenger through the outside entrance of their home or destination.

Door-to-door service: Demand-responsive transit providing service from any point of origin to any point of destination within the service area; doorstep-to-doorstep.

DOT: Acronym for the Federal Department of Transportation.

Down time: Amount of time that a piece of equipment is not available for use during normal operating hours, typically due to a breakdown; also called out-of-service time.

DRT: Demand-responsive transportation or transit service.

Dwell time: Time that a vehicle is stopped while picking up or discharging passengers.

Dynamic routing: Process of constantly modifying vehicle routes to accommodate service requests received since vehicle commenced operations, as opposed to predetermined routes assigned to vehicle.

Egress time: Period of time it takes a customer to move from the point of leaving a vehicle (egress or delivery point) to a final destination, usually by walking.

Elasticity: Measure used to describe the relationship or sensitivity between proportionate changes in ridership (demand) relative to proportionate changes in quality or price (fare) of service.

Elderly and handicapped (E & H): Generally accepted as disadvantaged segment of the transportation market comprised of persons over 65, wheelchair users, and/or semi-ambulatory person; refer to handicapped definition.

Estimated time of pick-up (ETP): Anticipated vehicle arrival time quoted to the customer.

Exclusive-ride taxi (ERT): Traditional taxicab service, limited to soliciting and accepting one party or rider at a time.

Express service: Transit service providing higher speeds with fewer stops than generally exist on other portions of the system or on the same route.

Extra board: Roster of drivers not assigned to runs who fill in for regular drivers when they are off sick, on vacation, or to drive charters, etc. Also referred to as spare board.

Family of services: Transportation system concept which employs a range of vehicle types and services permitting each to be efficiently matched to appropriate densities, characteristics, and needs of the area served.

FARE (Financial Accounting Reporting Elements): A uniform financial and operating data reporting system developed by the Federal government for the transportation industry.

Fare-box revenue: Generally includes transit revenue from fares.

Fare elasticity: See Elasticity.

Federal Capital Assistance: Federally supplied financial aid for transit capital expenditures. Also referred to as UMTA's Section 3 funds.

Federal Operating Assistance: Federally supplied financial aid for transit operations (not capital expenditures). Also referred to as UMTA's Section 5 funds.

Feeder service: Local transportation service which connects with a line-haul express or long-distance transit service (e.g., express bus, commuter rail, or rapid transit).

Few-to-many (FTM): Demand-responsive transportation that serves a few pre-selected origins, typically activity centers or transfer points, and any destination, such as homes; reverse operation of many-to-few service.

FHWA: Acronym for the Federal Highway Administration located within the Federal Department of Transportation.

Fixed costs: Expenses that are independent of level of service being provided.

Fixed-route service: Conventional transit service in which transit vehicles operate exclusively along a predesignated route.

Flag-drop charge: Charge for an initial distance on taxi service which actually defines a minimum fare.

Flag-stop service: Paratransit service accessed by hail.

Flat fare: Fare structure in which there is only one cost for any trip, regardless of origin or destination.

Fleet size: Total number of vehicles dedicated to transportation service in service area; also referred to as vehicle fleet.

Flexible route: Trip pattern which is continuously changed to meet travel demand (e.g., routes traveled by taxis and dial-a-bus services).

Flexicab: Generic term for variety of innovative public transit services that can be offered as extensions or modifications to conventional taxi service.

Franchise: Privilege or right granted a person, group, or organization by a government authority, usually applicable to a geographically specified area.

Fringe benefit costs: Transit system expenditures for employee compensation in addition to wages, salaries, and employer payroll taxes.

Gather: Many-to-one demand-responsive transportation service in which passengers are collected from multiple origins for transportation to a common destination such as a transit terminal, typically involving prescheduled or regular service; opposite of scatter service.

General market (GM): Total population or general public.

Group size: Number of persons traveling together.

Gypsy taxi: Typically illegal, cut-rate hail taxi service provided by individual auto operators entering and leaving market as supply and demand warrants.

Hail: Hand and/or voice signal to cruising vehicle to stop and accept passengers.

Handicapped: (As defined in Section 16(d) of UMTA of 1964 as amended) A person who by reason of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability, including those who are nonambulatory, wheelchair-bound and those with semi-ambulatory capabilities, are unable without special facilities or special planning or design to utilize mass transportation facilities as effectively as persons who are not so affected.

Hardware: The various pieces of equipment necessary for operation: radios, vehicles, computers, etc.

Headway: Time interval between transit vehicles travelling in the same direction on the same route.

HEW: Acronym for the Federal Department of Health, Education and Welfare.

Hitchhike: Form of free shared-ride travel, accessed by hail.

Immediate service: Demand-responsive transportation service requested for pick-up as soon as possible.

Integrated transit/paratransit services: Aligning or restructuring of conventional and flexible routes, fares, schedules, transfers, vehicles and management systems to obtain the greatest ridership at the least unit cost.

Intermodal integration: Coordination between two or more different transit modes whose services are provided by the same or different operators.

Interzonal service: Transportation services provided between or among different designated areas.

In-transit time: Amount of time actually spent travelling in vehicle from origin to destination; the elapsed time between vehicle boarding and exiting by a passenger. Also referred to as on-board travel time.

Intrazonal service: Transportation services provided only within a designated area (e.g., neighborhood loop or shuttle).

ITA: Acronym for the International Taxicab Association (U.S. and Canada).

Jitney: Shared-ride paratransit service characterized by frequent, but unscheduled, operation of small-capacity vehicles such as vans or autos over generally fixed routes and accessed by hail.

Latent demand: Additional travel which may be generated by the introduction of a new transit service.

Layover: Period between the end of one transit run and the beginning of another.

Level of service: Variety of measures meant to denote the quality of service provided to customers, generally in terms of total travel time or a specific component of total travel time. Also referred to as service quality.

Lift: Platform mechanism, adaptable to transit vehicles, to raise and lower wheelchair users into and out of transit vehicles.

Lift operation time: Total time required for a driver to load or unload a passenger in a wheelchair.

Limited doorstop service: Demand-responsive transit providing service from selected points of origin and destination so that users must sometimes walk to the selected points. May apply to many-to-many, many-to-few, many-to-one, or route and point deviation service.

Limited origin/destination service: Demand-responsive transit providing service from a restricted number of origins and/or destinations; class of service which includes many-to-few, many-to-one, route and point deviation.

Limousine: Any of various large and often prestigious passenger vehicles; hired with a driver under hourly contract or for specific trips (e.g., airport service).

Line-haul service: Transit operations along a single corridor or several corridors.

Live clock: Fare calculation device that charges according to the amount of time spent in vehicle; compensates operator for delays in traffic.

Load factor: Number of riders per vehicle as a percentage of the vehicle seating capacity.

Local service: Community transit service operating on fixed routes, picking up and discharging passengers at frequent, designated stops, with consequent low speeds.

Long-range element: The long-term transit and highway projects and programs included in the Transportation Improvement Program (TIP), which forms the basis transportation policy for the region.

Loop service: Transit service characterized by circular or oblong route configuration, usually operating within small areas, permitting transfers to other modes at connecting points.

Low-mobility groups: Persons who because of lack of opportunity or ability to use automobiles, the absence of adequate public transportation, or the lack of motivation or need, travel considerably less than others. Included are all of the transit-dependent groups except, possibly, youth.

Macromodels: Models dealing with coarse levels of detail focusing on individual systems, services and regionwide performance rather than on individual vehicles and passengers.

Maintenance costs: Total expense of all labor, materials, equipment and facilities used to repair and to service transit passenger vehicles, service vehicles, and related transit equipment.

Major Activity Center (MAC): Distinct geographical areas characterized by relatively heavy traffic volumes and densities (e.g., CBD, major air terminals, large universities, large shopping centers, industrial parks, sports arenas).

Manual dispatching: Demand-responsive transportation service that operates without the assistance of automatic data-processing equipment.

Manual service: Demand-responsive transportation service that operates without assistance of automatic data-processing equipment.

Many-to-few: Demand-responsive transportation service that serves any origin, such as a home, and a few preselected destinations, typically major activity centers or transfer points.

Many-to-many: Demand-responsive transportation that serves any origin, such as a home, and any destination within a service area.

Many-to-one: Demand-responsive transportation that serves any origin, such as a home, and only one destination, such as a shopping center or commuter rail station; also called gather.

Marginal cost: Cost of carrying one additional passenger or unit of service.

Market: Term for sets of tripmakers, such as employees commuting to downtown jobs, targeted as potential users of a paratransit service.

Market penetration: Portion of a target group of tripmakers using the paratransit service offered.

Market segment: Individuals with the same combination of transportation needs or demands typically defined by socioeconomic characteristics, trip purpose, spatial or temporal travel patterns.

Mass transit or mass transportation: General term for the collective transportation services available to the public which cannot be reserved for the private and exclusive use of individual passengers.

Measure: Data element used as a reference standard for quantitative comparisons.

Measurement instrument: Source of information or means by which data may be obtained (e.g., a survey).

Metered fares: Fare structure in which the cost of a trip is determined by a measurement instrument, usually a function of miles traveled and travel time.

Metropolitan area: County or set of contiguous counties with one or more "central" cities of 50,000 or more population.

Metropolitan Planning Organization (MPO): Designated by state (e.g., Governor) at UMTA's request, with authority to carry out metropolitan transportation planning decision-making and areawide planning and coordination functions.

Micromodels: Models dealing with fine levels of detail and focusing on the relationships between individual vehicles and passengers.

Mileage fare: Fare structure in which the cost of a trip is a direct function of the length or miles traveled.

Minibus: Generic class of small bus vehicles, generally seating under 20 passengers, with greater maneuverability, operating flexibility, lower initial cost and shorter expected life than standard-size buses.

Mobile unit: Individual radio receiver/transmitter located in vehicles.

Mobility: Attribute of user, denoting individual's ability and ease of traveling from place to place.

Modal share: Proportion of travelers using each of the various modes; sum total of modal shares for all modes equals one.

Modal split: Proportion of travelers with a defined set of origins and destinations who travel by various modes.

Mode: One of several possible means of urban passenger transport (e.g., auto, fixed-route transit, taxi, dial-a-bus, walking, etc.).

Model: Mathematical expression of relationships among variables representing quantifiable conditions and characteristics.

Multiple-stop dispatching: Vehicle dispatching in which driver is assigned series of stops or "tour" which must be completed before next series is assigned.

Multi-user vehicle system (MUVS): Fleet of user-operated vehicles such as short-term rental cars, organized as a paratransit mode of transportation.

Network: Transportation system configuration involving several connecting routes.

Non-integrated paratransit: Service which operates independently or stands alone, such as a single-vehicle taxicab service.

Non-urbanized areas: Cities, towns and rural places with less than 50,000 population.

No-show: Incident in which a person requesting demand-responsive transportation service does not meet the vehicle when it arrives at the designated pick-up point.

Off-peak period: Time periods during the day when the demand for transit service is low.

On-board survey: Survey of transit users conducted on the vehicle during regular revenue service.

One-to-many: Demand-responsive transportation that serves only one origin, such as a shopping center or transit terminal and many destinations, such as homes; also called scatter; reverse of many-to-one.

Operating costs: Recurring expenses associated with the daily operation of a transportation service, including items such as drivers' and dispatchers' wages, maintenance, fuel, registration and insurance.

Operator: The organization that runs the system on a day-to-day basis.

Order processor: Person employed in demand-responsive transit systems to answer telephones and process requests for services; also referred to as call-taker or telephone operator.

Origin: The spatial beginning of a trip or the zone or location in which a trip begins.

Paratransit: Those forms of intraurban passenger transportation which are available to the public, are distinct from conventional transit (scheduled bus and rail) and can operate over the highway and street system.

Passenger revenue: Fares, including transfer charges and zone charges, paid by transit passengers traveling aboard vehicles operating in regular service; also referred to as farebox revenue.

Passenger trip: The movement of a person on a vehicle between their origin and their destination.

Peak period: Period during the day when demand for transit service is the greatest, typically occurring during the morning (7-9 A.M.) and evening (4-6 P.M.) hours.

Peak service: Transit service provided during the peak period.

Pick-up deviation: Time difference between the predicted or promised pick-up time and the actual pick-up time; sometimes called lateness.

Pick-up points: Geographical locations or sites where vehicles stop for passenger loading.

Pick-up time: Time at which a customer boards a vehicle; sometimes referred to as vehicle arrival time.

Poverty: Families and unrelated individuals are classified as being above or below the poverty level based on the following poverty rates adopted by the Federal Interagency Committee for 1976:

Family Size	Annual Income
1	$2884
2	3711
3	4540
4	5815
5	6876
6	7760
7 or more	9588

Because of differing transportation needs, a distinction is usually made between poor persons in the labor force and outside the labor force.

Prearranged access: Standing request for daily or weekly transportation service, typically renewed by the week or month; commonly called subscription service.

Prearranged trip services: Forms of paratransit, such as carpools, vanpools, and subscription services, aimed at the regularly scheduled daily trip market; typically home-based work trips.

Premium taxi service: Exclusive-ride taxi; one party at a time.

Productivity: Performance measure which indicates the relative operating efficiency of a transportation service, usually expressed as the number of passengers carried per hour or per mile of vehicle operation.

Promised pick-up time: Clock time of vehicle arrival that the control center informs a customer to expect when requesting service; also referred to as predicted pick-up time.

Promised wait time: Lapsed time that the control center informs a customer to expect when requesting service; also referred to as predicted wait time.

Provider-side subsidy: Sum paid directly to operators for supplying certain specified transportation services; also referred to as operator's subsidy.

Public transportation: General term used to describe passenger transportation services available to the general public; broader definition of service than that indicated by the terms "mass transportation", "mass transit" or "conventional transit"; includes taxicab and other paratransit modes.

Publicly-owned transit system: Transportation system owned by any municipality, county, regional authority, state, or other governmental agency, including a transit system operated or managed by a private management firm under contract to the government agency owner.

Punctuality: Mean and variability of pick-up deviation, or lateness in pickup.

Radio teleprinter: Device that converts digital communications to printed form.

Ramps: Inclined passageway which allows handicapped riders to board and disembark from transit vehicles.

Recovery time: Extra time scheduled at the outer terminals of a transit route to allow for rest stops and to help make up lost time.

Reliability: Relates to the variability of predicted and actual waiting times, punctuality and arrival times; also employed in its common meaning of "dependability" when referring to attitudes on transit.

Relief period: Amount of rest time provided within a continuous work assignment for driver comfort and safety.

Research, Development and Demonstrations Program (RD&D): UMTA program to stimulate technological, institutional and operational improvements in public transportation.

Response time: Amount of time between an immediate request for demand-responsive transit service and pick-up; sometimes referred to as wait time; may be used as performance measure to indicate system accessibility and convenience for the user.

Revenue: Fare-box receipts and other income generated by a transit system (e.g., advertising income or charter receipts), not including subsidies.

Revenue-miles: Sum for vehicle, vehicle type or total fleet in a transportation system, of the mileage when the vehicle(s) are available for revenue service; also referred to as vehicle service-miles.

Revenue passengers: Total number of fare-paying riders.

Revenue vehicle hours: Sum for each vehicle, vehicle type, or for system as a whole, of the number of scheduled transit service operating hours.

Reverse commute: Movement from central city residential locations to employment in the suburbs.

Ride quality: Measure of the comfort level experienced in a moving vehicle. May be defined by the vibration, frequency, accelerations, jerk, pitch, yaw and roll.

Ride-sharing: Paratransit which entails prearranging group trips for people traveling at similar times from approximately the same origin to approximately the same destination.

Ride time: Time spent in the transit vehicle between boarding and disembarking.

Route: Fixed path traversed by a transit vehicle in accordance with a predetermined schedule; the combination of street and road sections connecting an origin and destination.

Route deviation: Demand-responsive transportation service pattern in which a normally fixed-route bus will leave the route upon request to serve patrons not on the fixed route.

RTA: Acronym for Regional Transit Authority, a public agency charged with providing public transit services.

RUCUS: Acronym for Run Cutting and Vehicle Scheduling, a computerized transit scheduling program.

Rules of thumb: Distillation of conventional wisdom, operating experience, modeling results, and quick-and-dirty calculations, reduced to single sentences with the ring, although not necessarily the reliability axioms.

Run: One transit vehicle trip in one direction from the beginning to the end of a route. When a transit vehicle makes a round trip on one route, it has completed two runs, sometimes referred to as a tour.

Run guide: Listing of all scheduled runs.

Running time: Time required for normal driving procedures on a projected route, or the scheduled elapsed time between points along a route. May vary at different times of the day due to traffic congestion.

Scatter: One-to-many demand-responsive transportation service in which passengers are distributed to many destinations from a single origin such as a rail depot, typically involving prescheduled or regular service. Opposite of gather service.

Scheduled speed: Average speed that a transit vehicle travels, including dwell times, acceleration and deceleration. Calculated by dividing trip distance by the total elapsed time to complete trip.

Scheduler: Person employed in demand-responsive paratransit system to efficiently match service requests with available supply of vehicles and drivers.

Scheduling algorithm: Mathematical formula which assigns requests to tours based on some predetermined service quality standards or efficiency criteria.

Scheduling function: Control center activity that assigns vehicles to trip tours.

Screenline: Imaginary line dividing the study area into two parts for purposes of analysis.

Scrip: Fare arrangement in which tokens or receipts are used to allow holder or bearer to ride at reduced or no fare.

Seating capacity: Total number of seats available on an operating transit vehicle.

Service and Methods Demonstration (SMD) Program: Program established and overseen by UMTA and TSC in which transit innovations are developed, demonstrated and evaluated for their potential in providing improved transit service.

Service area: Geographic region in which a transit system provides service, usually measured in square kilometers or square miles.

Service frequency: Time interval between passenger vehicles moving over a route in one direction; or number of vehicles moving in the same direction that pass a given point on a route within specified interval of time.

Service loop: System configuration in which vehicles follow a set, continuous, circuitous path.

Service option: Specific form of transportation services defined in terms of operating or service characteristics such as degree of route fixity, service area, service hours, prearrangement requirements, etc.

Service quality: See Level-of-service.

Shared-ride taxi (SRT): Door-to-door transportation service under private ownership available by phone or street hail, for two or more parties using the taxi simultaneously, typically between different origin and/or destination points.

Shoppers' specials: Special paratransit service in which persons are transported to and from shopping and commercial centers (e.g., each week or every other week).

Short-term rental cars: Paratransit service characterized by a multi-user vehicle system (MUVS) offering automobiles for rental to qualified users for short intraurban trips.

Shuttle service: Paratransit service characterized by continuous point-to-point operations, especially a short circuitous route or one connecting two transportation services; depending on route configuration, vehicles may reverse direction of travel.

Simulation: Model which generates a series of artificial events and responses to these events in a manner which resembles the interaction of cause and effect in a real system.

Single-stop dispatching: Operating procedure whereby driver receives instructions for next route segment at each assigned stop.

Sketch planning: Preliminary outline and overview of proposed transportation services with limited technical, operational or economic detail.

SMART: Acronym for the SYSTAN Macroanalytic Regional Transportation Model, developed to test the applicability of different transportation modes in integrated regional transit systems.

SMSA: Acronym for Standard Metropolitan Statistical Area.

Software: Documentation and manuals of service operation such as dispatcher guidelines, training and orientation manuals, computer programs, etc.

Spare board: See Extra board.

"Special efforts": UMTA regulation that mandates "genuine good faith progress in planning service for wheelchair users and semi-ambulatory handicapped persons that is reasonable by comparison with the service provided to the general public and that meets a significant fraction of the actual transportation needs of such persons within a reasonable time period."

Special services: Transit services that are provided on a non-daily or irregular basis to particular target groups.

Specifications: Detailed, objective and exact statement prescribing materials, dimensions, and workmanship for particular vehicles, radio equipment, etc. to be built, installed or manufactured.

Sponsor: Organization with the power to authorize a transit operation.

Spread time: Total elapse of time between the first morning pull-out and the last pull-in of any one day for a driver. Spread time may include two work assignments separated by an idle "swing time". Maximum allowable spread time is usually contained in a labor agreement or inherent in policy practices.

Standard Metropolitan Statistical Area (SMSA): County or group of counties containing at least one city (or twin cities) of 50,000 or more population, plus any adjacent counties which are metropolitan in character and economically and socially integrated with the central county or counties (in New England, towns and cities are the units used rather than counties).

Standard shift: Eight hours or the normal operator work day; also referred to as straight time.

Standard (urban) bus: Transit vehicle designed for short-ride, frequent-stop service, typically containing 30 to 50 seats, two doors for entry and exit, diesel engine located at rear and top speed of 72 to 95 km/hr (45 to 60 mph).

State (of a system): Levels of variables that characterize a given system at a given time; the levels may be defined statically or within a patterned flux (e.g., "steady state").

Steady state: Condition or state at which a system stabilizes following an external influence or start-up.

Stochastic model: Macromodel that approaches micromodels in level of complexity, depth of detail and data requirements.

Straight time: Number of hours worked at the regular wage rate, typically the standard shift.

Subscription (bus) service: Paratransit service provided by advance reservations for the same trip over a long period of time (typically A.M. and P.M. work or school trips); also referred to as buspool.

Subsidy: Grant which makes up the difference between the cost of providing transit service and the fare charged for the service; usually provided by a governmental agency.

Swing time: Amount of time between a driver's driving assignments.

System capacity: Number of passengers a given system is planned to carry in unit time. Usually measured in passengers per hour.

System configuration: The temporal and spatial arrangement of various transportation service options to meet community needs.

Target market: Subset of the service area's total population to which service is directed especially or exclusively; such as elderly, handicapped, low income elderly.

Taxi (conventional): Door-to-door exclusive transportation service under private ownership available by phone or street hail to individuals and small groups traveling together. Also referred to as exclusive ride taxi (ERT).

Telephone hold time: Time that a customer must wait before an order processor can begin processing their request for service. This includes the time that the phone is ringing and the time that the customer is placed on 'hold'.

Telephone service time: Amount of time spent by a call taker to process a request for service, including the time a customer is placed on 'hold' during the conversation.

Terminal time: Time that the bus spends in layover or time recovery at the tour terminal.

Third-party financing: Cost of transit services is paid by someone other than the user, the transit authority, or government agencies; often paid by commercial destination such as a shopping center.

3C planning process: DOT mandate requiring each urbanized area in order to receive federal capital and operating funds to have a continuing, cooperative and comprehensive planning process that results in plans and programs consistent with the comprehensively planned development of the urbanized area.

Tie downs: Devices designed to secure a wheelchair on board a vehicle.

Token: Piece resembling a coin issued as a fare substitute for transit service.

Total labor costs: Sum of annual payroll, employer payroll taxes, and fringe benefit costs.

Total miles: Revenue miles plus any non-productive travel miles, such as returning to the garage.

Total revenue: Sum of receipts derived from provision of transit service plus additional monies related to provision of transit service but derived from other sources; typically the sum of total operating revenue, net auxiliary operating revenue, non-operating income, and total operating assistance.

Total travel time: Total time spent in moving from origin to destination = access time + wait time + ride time + (transfer time + ride time) + egress time. Sometimes referred to as the time which a user actually spends "in the system".

Tour: Route plan and schedule for a paratransit vehicle to serve a specified set of passenger requests; also referred to as vehicle tour.

Traffic generator: Location in the service area that has a high concentration of patrons for a transportation service.

Transbus: Prototype standard-size bus to be used by UMTA for basing all vehicle specifications and procurements issued after September 30, 1979.

Transfer coordination: Process of providing consistently short transfer times.

Transfer station: Specifically located facility which accommodates passengers waiting to move between vehicles and/or modes.

Transfer (wait): Time period between disembarking from a bus and boarding another bus in order to continue the same trip; may include the time on the second vehicle prior to its leaving.

Transit dependents (TD): Those who because of age, income, auto availability, or physical/mental incapabilities must rely on public transportation. Included are the elderly, handicapped, youth, poor and unemployed. Could include, but usually doesn't, those who prefer not to own an auto.

Transit district: Usually refers to organization which operates as an independent entity, usually with tax-based support, providing transit service in a defined geographic area.

Transit operations and management (TOM): Procedures, techniques, and tools sponsored by UMTA for use by transit companies, includes four categories of activities: transit research information, transit operations, transit management, and intermodal integration.

Transportation-handicapped person: Any person who, by reason of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability, is unable without special facilities or special planning or design to utilize mass transportation facilities as effectively as persons who are not so affected.

Transportation Improvement Program (TIP): Staged multi-year (3-5 year) program of transportation improvements including an annual element (AE) which is a prerequisite for receiving federal aid as described under UMTA Act of 1964, as amended.

Transportation Systems Management (TSM): Planning process to evaluate short-term, low-capital improvements and strategies for maximizing efficiency of existing transportation facilities as alternatives to longer range, capital-intensive projects; short-range element of TIP developed by each urbanized area.

Travel barrier: Any factor in a transit system which inhibits the use of that service by potential users.

Travel time: Total amount of time taken to move from beginning to end of a trip; also referred to as total travel time.

Trip: Movement of one or more persons from a common origin to a common destination. Also applies to vehicle movement between origin and destination.

Trip generation: Broad term describing the relationship between the urban area and its travel demand, and relating to the number of trips that begin or end in any part of the urban area.

Trip length: Shortest over-the-road distance between the point where the passenger boards the vehicle and the point where rider leaves the vehicle. For shared-ride service, the deviations to accommodate other passengers is not included.

Turn key: Operation of locally subsidized transit services by taxi companies under contract to city government.

TWU: Transit Workers Union.

UMTA: The Federal Urban Mass Transportation Administration; part of the Federal Department of Transportation.

Urban Transportation Planning System (UTPS): Set of computer programs for use in planning multi-modal transportation systems.

Urbanized area: Central city of 50,000 or more population, including the surrounding closely settled area.

User-side subsidy: Sum or discount paid or applied directly to riders of the transit service through some type of voucher system.

UTPS: Acronym for Urban Transportation Planning System.

UTU: United Transit Union.

Van: Vehicle frequently used to provide paratransit service, normally seating 8-15 passengers.

Vanpool: Prearranged shared-ride paratransit system using vans purchased or leased by employer, individual, or other organization for transporting commuters with proximate origins and destinations.

Variable costs: Expenses which change or are modified directly in relation to the amount of output (or service).

Vehicle-actuated control: Transit signal control based on actions of vehicle.

Vehicle arrival time: Time at which vehicle reaches requesting customer's origin or destination; sometimes referred to as pick-up or drop-off time.

Vehicle capacity: Normal maximum number of passengers that the vehicle is designed to accommodate comfortably; includes seated plus standing riders.

Vehicle density: Number of vehicles per unit area; typically, vehicles per square mile (square kilometer).

Vehicle-hours: Total number of hours that each vehicle is in revenue service, including layover time.

Vehicles in service: Total number of vehicles operating in service area; vehicle fleet - vehicles in service = number of back-up vehicles.

Vehicle-miles: Total number of miles each vehicle, vehicle type or total fleet is in revenue service per time period.

Vehicle-miles traveled (VMT): Sum for each vehicle type in a transportation system of the total mileage traveled during the reporting period. Can be classified into in-service (revenue) and non-service (non-revenue) vehicle miles.

Vehicle occupancy: Number of passengers observed aboard a vehicle.

Vehicle seat capacity: Maximum number of passengers that the vehicle is designed to seat.

Vehicle wait time: Time that a bus is stopped while picking up or discharging a passenger; also referred to as dwell time and patron approach time.

Wait time: Time a passenger spends waiting for a transit vehicle to arrive, whether at a bus stop or, in the case of demand-responsive transit, after calling for service; in immediate demand-responsive transit, typically defined as pick-up time minus call-in time.

Youth: Generally, persons who are 17 or under, based on the trend of state legislatures to designate age 18 as the age of adulthood or majority.

A2

Zone: Geographical subset of the service area used to denote area in which many-to-many service operates between all points; designation of area for purposes of tabulating trip data or calculating fares.

Zone fare: Fare structure in which the price is a function of the length of trip measured in terms of defined areas called zones.

SYSTEM INVENTORY A3

The following listing represents an inventory of dial-a-bus and shared-ride taxi systems that were confirmed or discovered during the development of the guidelines material. The listing is organized as follows:

- Existing U.S. systems, alphabetically by state and within each state, alphabetically by city;
- Discontinued U.S. systems; and
- Canadian systems.

This system inventory is not meant to be complete, as the information on some of the systems is sketchy and there are undoubtedly more systems "out there" which need to be added, particularly those providing transportation as part of a social service program. Fifty such systems were uncovered in Michigan alone (in addition to those included in this inventory); they were operated by Councils on Aging, Community Action Agencies and similar groups, and existed under a State elderly and handicapped transit program.

The listing briefly describes each service and, in cases where the documentation was supplied by the system operator or for those systems on which relatively complete information was found, the listing is preceded by a number which corresponds to descriptive information in a System Summary Sheet (Appendix 4).

A3

SYSTEM INVENTORY

ALABAMA, Montgomery TM/SRT
User-side subsidy demonstration of elderly and handicapped.

ALABAMA, Pickens County TM/DAB
Demand-responsive transportation for low income persons.

ALASKA, Anchorage TM/DAB

ARIZONA, Glendale GM/SRT
City contract with Yellow Cab of Phoenix for many-to-many service; principal users are the elderly.

ARIZONA, Mesa /SRT
City-wide service begun in July 1977.

#83 ARIZONA, Phoenix TM/DAB

ARIZONA, Scottsdale - proposed TM/

#82 ARIZONA, Tucson TM/DAB

#51 ARKANSAS, Little Rock - North Little Rock GM/SRT

ARKANSAS, East Central TM/DAB
Economic Opportunity Agency service for poor and elderly in five rural counties.

ARKANSAS, Mid-Delta TM/DAB
Community Service system for poor and elderly in two rural counties.

ARKANSAS, South East Arkansas TM/DAB
Community Action Agency service for poor and elderly in five county rural area.

CALIFORNIA, Anaheim - proposed GM/DAB
Route deviation dial-a-ride in non-peak hours planned for September 1978.

#52 CALIFORNIA, Arcadia GM/SRT

#53 CALIFORNIA, Barstow GM/SRT

CALIFORNIA, Benicia GM/SRT
Benicia Cab Company has operated shared-ride taxi service since 1973.

#55 CALIFORNIA, Beverly - Fairfax GM/SRT

CALIFORNIA, Butte County TM/DAB
Chico Clipper dial-a-ride for elderly and handicapped.

CALIFORNIA, Carpenteria GM/DAB
Demand-responsive service in off-peak hours.

CALIFORNIA, Cherry Valley GM/SRT
Route deviation service administered by Riverside Transit Agency and operated by Banning Cab Company.

#56 CALIFORNIA, Claremont GM/SRT

CALIFORNIA, Coalinga TM/DAB

#57 CALIFORNIA, Colton GM/SRT

CALIFORNIA, Compton - proposed for 1978 TM/SRT
Subsidized taxi dial-a-ride for elderly and handicapped.

CALIFORNIA, Contra Costa County GM/DAB
Feeder service operated by A. C. Transit.

CALIFORNIA, Corona GM/DAB
Many-to-many within zone and many-to-one between zones; service operated by DAVE Systems.

#2 CALIFORNIA, East/Northeast Los Angeles GM/DAB

#60 CALIFORNIA, El Cajon GM/SRT

#3 CALIFORNIA, El Segundo GM/DAB

CALIFORNIA, Escalon /DAB

CALIFORNIA, Eureka TM/SRT
Shared-ride taxi service, primarily for the handicapped, co-ordinated with corrider service

#4 CALIFORNIA, Fairfield GM/DAB

CALIFORNIA, Fillmore GM/DAB
Fillmore minibus, provider modified dial-a-ride bus service.

CALIFORNIA, Fortuna TM/DAB
Demand-responsive bus for the elderly.

#113 CALIFORNIA, Fremont TM/SRT
City contract with cab company for senior citizen taxi program.

CALIFORNIA, Fremont-Newark GM/DAB

CALIFORNIA, Fresno TM/DAB
"Handyride", a many-to-many service, provided by Fresno Transit for handicapped persons.

#58 CALIFORNIA, Fullerton GM/SRT

CALIFORNIA, Glendora - proposed for 1978 TM/DAB

CALIFORNIA, Gridley TM/SRT
Golden Feather Flyer taxi service for elderly and handicapped.

CALIFORNIA, Harbor City-proposed for 1978 GM/SRT
Advanced reservation dial-a-ride operated by taxi company.

CALIFORNIA, Hawthorne TM/SRT
Shared-ride taxi service for elderly.

#5 CALIFORNIA, Hemet - San Jacinto GM/DAB

CALIFORNIA, Hollister area /DAB

#6 CALIFORNIA, Hollywood - Westlake - East Wilshire GM/DAB

#114 CALIFORNIA, Huntington Park TM/SRT

#115 CALIFORNIA, Lafayette TM/SRT
Subsidized taxi service for elderly and handicapped.

#7 CALIFORNIA, La Habra GM/DAB

#59 CALIFORNIA, La Mesa GM/SRT

#8 CALIFORNIA, La Mirada GM/DAB

CALIFORNIA, Lakewood /DAB

#9 CALIFORNIA, Lompoc GM/DAB

CALIFORNIA, Lomita-proposed for 1978 TM/DAB
Twenty-four hour dial-a-ride for elderly and handicapped.

CALIFORNIA, Long Beach TM/SRT
Dial-a-ride for the handicapped.

#15 CALIFORNIA, Los Angeles (Watts) GM/DAB

CALIFORNIA, Los Gatos TM/SRT
Shared-ride taxi service for elderly and handicapped.

CALIFORNIA, Lynwood-proposed for 1978 GM/DAB
One van dial-a-ride operated in city.

CALIFORNIA, Madera County TM/DAB
Senior citizen demand-responsive bus service in rural area.

CALIFORNIA, Manhattan Beach TM/DAB
City-run dial-a-ride for the elderly and handicapped only.

CALIFORNIA, Marin County TM/DAB
"Whistle Stop Wheels" sponsored by the Marin County Senior Co-ordinating Council; run by volunteers

#116 CALIFORNIA, Marysville - Yuba City TM/SRT

CALIFORNIA, Ukiah - proposed GM/DAB
Mendocino Transit Authority is considering modifying present fixed route system with dial-a-ride service.

#10 CALIFORNIA, Merced GM/DAB

#61 CALIFORNIA, Monrovia GM/SRT

#84 CALIFORNIA, Montebello TM/DAB

CALIFORNIA, Morro Bay - proposed

CALIFORNIA, Mountain View TM/SRT
Community Services Co-operative.

CALIFORNIA, Napa County GM/DAB
Dial-a-ride transit system operating many-to-many service.

CALIFORNIA, Nevada County TM/SRT
A senior citizens taxi service, whose service requests are processed through Telecare, an information and referral service.

CALIFORNIA, Norco - discontinued, proposed /DAB

CALIFORNIA, Northridge - Sepulvada TM/DAB
Senior ride van offering door-to-door service through the Area Agency on Aging.

CALIFORNIA, Norwalk TM/DAB
Norwalk transit dial-a-ride minibus with lift, offering many-to-many service.

#62 CALIFORNIA, Ontario - Upland GM/SRT

#63 CALIFORNIA, Orange - Villa Park GM/SRT

#64 CALIFORNIA, Pacoima GM/SRT

#117 CALIFORNIA, Palo Alto TM/SRT

CALIFORNIA, Perris /DAB
Many-to-many dial-a-ride service.

#11 CALIFORNIA, Placer County GM/DAB

CALIFORNIA, Rancho Mirage GM/SRT
Subsidized taxi pilot project begun in June 1977.

CALIFORNIA, Redondo Beach-proposed for 1978 TM/SRT
Twenty-four hour subsidized taxi service for elderly and handicapped persons.

#85 CALIFORNIA, Riverside TM/DAB

#12 CALIFORNIA, Rubidoux GM/DAB

CALIFORNIA, Sacramento TM/DAB
The "Careful Coach" for handicapped persons operated by Sacramento Regional Transit District.

CALIFORNIA, Saddleback Valley - proposed GM/DAB
Dial-a-ride proposed for early 1978.

CALIFORNIA, Salinas TM/
Elderly and handicapped service provided by Salinas Transit.

CALIFORNIA, San Bernardino GM/SRT
City contract with San Bernardino Yellow Cab for dial-a-ride service.

#65 CALIFORNIA, San Bernardino County GM/SRT

#86 CALIFORNIA, San Diego TM/DAB

#87 CALIFORNIA, South East San Diego County TM/DAB

#118 CALIFORNIA, San Leandro TM/SRT

CALIFORNIA, San Mateo TM/DAB
"Redi-Wheels" demand-responsive bus service for the elderly and handicapped.

CALIFORNIA, Santa Ana TM/DAB
Dial-a-lift service operated by Paramed under contract to Orange County Transit District.

CALIFORNIA, South Santa Clara County GM/DAB
Rural portion of former county-wide system still operating eight vehicles.

CALIFORNIA, Santa Clara County TM/SRT
Subsidized taxi service for elderly administered by Economic and Social Opportunities Inc.

CALIFORNIA, Santa Maria - Orcutt - Guadalupe GM/DAB
Demand-responsive system operated by city of Santa Maria.

CALIFORNIA, Sierra County TM/DAB
Telcare service for elderly and handicapped operating in unincorporated part of county.

CALIFORNIA, Solvang - Buelton - Santa Ynez TM/DAB
County of Santa Barbara service primarily for the elderly.

#119 CALIFORNIA, South Gate TM/SRT

CALIFORNIA, Sunnyvale TM/SRT
Subsidized taxi service for the elderly and handicapped.

CALIFORNIA, Tehama County TM/DAB
Rural county van system for senior citizens.

#13 CALIFORNIA, Tracy GM/DAB

CALIFORNIA, Tuolomne County TM/DAB
Rural county service for commuters and handicapped persons.

A3

#14 CALIFORNIA, Turlock — GM/DAB

CALIFORNIA, Vallejo — TM/SRT
Taxi service for the elderly and handicapped.

CALIFORNIA, Vandenberg Village/Mission Hills — GM/DAB
County of Santa Barbara demand-responsive pilot project for 77-78.

CALIFORNIA, Venice-proposed for 1978 — GM/SRT
Advanced reservation dial-a-ride operated by taxi company.

CALIFORNIA, West Hollywood — TM/
Area Agency on Aging sponsored service for the elderly only.

CALIFORNIA, Whittier — TM/SRT
Taxi service for the handicapped.

CALIFORNIA, Woodland — TM/
Community care car providing free service for the elderly and handicapped.

COLORADO, Denver — TM/DAB
"Handyride", Regional Transit District's subscription service for the handicapped.

CONNECTICUT, Hartford — TM/DAB

CONNECTICUT, Lower Naugatuck River Valley — TM/DAB
Federal demonstration project for the elderly and handicapped.

#88 CONNECTICUT, West Hartford — TM/DAB

#79 CONNECTICUT, Westport — GM/SRT Integrated

#89 DELAWARE - State program — TM/DAB

#90 DELAWARE, Dover — TM/DAB

#120 FLORIDA, Dade County — TM/MIX

FLORIDA, Gasden County — TM/DAB
Demand-responsive van service for elderly and poor persons.

FLORIDA, Hollywood — TM/SRT
"Share-a-ride" pilot project by Broward Company Mass Transit Division; two taxi companies in use.

FLORIDA, Jacksonville-proposed — TM/DAB
"Ride Inc.", demand-responsive van service for the handicapped to begin summer of 1978.

FLORIDA, Putnam County — TM/DAB
Rural county demand-responsive service for the elderly.

#91 FLORIDA, St. Petersburg — TM/DAB

FLORIDA, Suwanne Valley — TM/DAB
Rural demand-responsive partially-fixed schedule system for commuters and the elderly.

IDAHO, Boise — TM/DAB
City contract with Boise Urban Stages to provide a door-to-door service for the elderly and handicapped.

IDAHO, Ada County — TM/DAB
Rural system of vans for transportation of elderly sponsored by Area Agency on Aging.

#16 ILLINOIS, Bensenville GM/DAB

#92 ILLINOIS, Chicago TM/DAB

ILLINOIS, Deerfield GM/DAB
Dial-a-ride system in Chicago area.

INDIANA, Indianapolis TM/DAB
"Care-A-Van" service for the elderly and handicapped.

INDIANA, Lake County TM/DAB
Rural demand-responsive van service the the poor and elderly.

IOWA, Bettendorf GM/DAB
A city system of two demand-responsive vans and one fixed route van; coordinated with a nearby city system (Davenport).

IOWA, Davenport GM/SRT
Shared-ride taxi system.

IOWA, Davenport area TM/DAB
"Senior Lift" operated by a senior citizen advisory council in rural communities; contracts with bus company for handicapped service in Davenport.

IOWA, Des Moines TM/MIX
Special Service Transportation Corp. owns van and also uses taxi and transit services for the elderly and handicapped service.

IOWA, Dubuque TM/DAB
Fixed schedule and demand-responsive service for the elderly in three county rural area.

IOWA, Ottamwa area TM/DAB
Rural multi-county van for the elderly, operated by the Area Agency in Aging.

#93 KANSAS, Topeka TM/DAB

KENTUCKY, Four Northeast Counties TM/DAB
Area Development Council rural bus system for the poor; offers both fixed-route and demand-responsive services.

#94 LOUISIANA, Baton Rouge TM/DAB

LOUISIANA, Beauregard Parish TM/DAB
Community Action Agency van for the poor and elderly in rural area.

LOUISIANA, Jefferson Davis Parish TM/DAB
Community Action Agency service for the elderly in rural area.

#67 LOUISIANA, St. Bernard Parish GM/SRT

LOUISIANA, Tri-Parish TM/DAB
Fixed route and demand-responsive service in rural area for retarded children and the poor.

MAINE, Kennebec - Lincoln - Somerset Counties area TM/DAB
Task Force on Aging van system for the elderly in rural area.

MAINE, North Kennebec County TM/DAB
Demand-responsive van system for human service agency clients in rural area.

A3

#95 MAINE, York County — TM/DAB

MARYLAND, Ann Arundel County — TM/DAB
Demand-responsive bus service for elderly.

MARYLAND, Baltimore — TM/SRT
Shared-ride taxi service for the elderly and handicapped.

MARYLAND, Prince Georges County — TM/DAB
Fixed-route bus service with deviations for the elderly in rural area.

#18 MASSACHUSETTS, Bedford — GM/DAB
Demand-responsive service provided by Bedford local transit.

#96 MASSACHUSETTS, Boston — TM/DAB
"The Ride", a two year demonstration project using van service for the handicapped.

MASSACHUSETTS, Boston — GM/SRT
"Share-A-Cab" service from Logan Airport to outlying communities.

MASSACHUSETTS, Brocton — TM/MIX
"Dial-A-Bat", Brocton area transit's co-ordinated transport service of social service agencies, elderly and handicapped, and low income persons; uses both buses and taxis.

MASSACHUSETTS, Connecticut Valley — GM/DAB
New England Farm Workers Council's fixed route service with deviations in a rural area.

MASSACHUSETTS, Hingham — TM/DAB
Free off-peak demand-responsive service in town for elderly persons.

MASSACHUSETTS, Lowell — GM/SRT
Shared-ride taxi service.

MASSACHUSETTS, Natick — TM/DAB
Demand-responsive service for commuters.

MASSACHUSETTS, Needham — GM/DAB
Fixed-route system with hail-option and flexible service upon request.

MASSACHUSETTS, Pittsfield — TM/DAB
Demand-responsive van service in rural area for the elderly and welfare recipients.

MASSACHUSETTS, Lower Pioneer Valley — TM/DAB
Transit authority many-to-many dial-a-bus for elderly and handicapped persons.

#98 MASSACHUSETTS, Westford — TM/DAB
Demand-responsive service within a six-town area.

#97 MASSACHUSETTS, Worcester - SMITS — TM/DAB

#99 MASSACHUSETTS, Worcester — TM/DAB

#68 MICHIGAN, Adrian — GM/SRT

#19 MICHIGAN, Alma — GM/DAB

#69 MICHIGAN, Alpena — GM/SRT

#80 MICHIGAN, Ann Arbor — GM/DAB Integrated

#20 MICHIGAN, Antrim County — GM/DAB

MICHIGAN, Baraga County GM/DAB
Rural demonstration project with F.H.W.A. Section 147 funds; project year to end August 1978.

#21 MICHIGAN, Belding GM/DAB

#22 MICHIGAN, Benton Harbor - St. Joe GM/DAB

#23 MICHIGAN, Big Rapids GM/DAB

#70 MICHIGAN, Birmingham GM/SRT

#71 MICHIGAN, Cadillac GM/SRT

#24 MICHIGAN, Crawford County GM/DAB

#25 MICHIGAN, Davison GM/DAB

MICHIGAN, Detroit TM/DAB
Dial-a-bus for seniors and handicapped persons; run by Alpha Communications Development Corp.

#26 MICHIGAN, Dowagiac GM/DAB

#27 MICHIGAN, Eastern Upper Peninsula Transportation Authority (EUPTA) GM/DAB

#28 MICHIGAN, Eaton Rapids GM/DAB

#29 MICHIGAN, Ferndale - Pleasant Ridge GM/DAB

#30 MICHIGAN, Gladwin GM/DAB

#31 MICHIGAN, Grand Haven GM/DAB

#100 MICHIGAN, Grand Rapids TM/DAB

#32 MICHIGAN, Harper Woods GM/DAB

#33 MICHIGAN, Hillsdale GM/DAB

#72 MICHIGAN, Holland GM/SRT

#34 MICHIGAN, Houghton - Hancock GM/DAB

#35 MICHIGAN, Isabella County GM/DAB

MICHIGAN, Lakes Area Special GM/DAB
Route deviation dial-a-ride.

#36 MICHIGAN, Lake County GM/DAB

MICHIGAN, Livingston County TM/DAB
Elderly and handicapped service operating in county area but including service to Ann Arbor.

#37 MICHIGAN, Ludington GM/DAB

MICHIGAN, Macomb County TM/DAB
Non-profit corporation provides elderly and handicapped transportation; social service agency found it economic and efficient to arrange client transportation with provider.

#38 MICHIGAN, Manistee County GM/DAB

#39 MICHIGAN, Marshall GM/DAB

#40 MICHIGAN, Midland GM/DAB

#41 MICHIGAN, Midland County GM/DAB

MICHIGAN, Monroe - Frenchtown GM/DAB
Lake Erie Transit Commission's planned mix of fixed route and dial-a-ride initiated in 1977

MICHIGAN, Monroe County TM/DAB
Similar arrangment to Macomb County system.

#42 MICHIGAN, Mount Clemens GM/DAB

MICHIGAN, Muskegon TM/DAB
"Handivan" for the handicapped, formerly a state system run by Muskegon Area Transit.

#73 MICHIGAN, Niles GM/SRT

MICHIGAN, North East Oakland County GM/DAB
"Neotrans" operated by human services agency in five rural townships.

MICHIGAN, Port Huron GM/DAB
Blue Water Area Transportation Commission's planned mix of fixed route and dial-a-ride initiated in 1977.

#74 MICHIGAN, Redford Township GM/SRT

#44 MICHIGAN, Sault Sainte Marie GM/DAB

#75 MICHIGAN, Traverse City GM/SRT

#45 MICHIGAN, Trenton GM/DAB

MICHIGAN, Waterford Township GM/DAB

MICHIGAN, Wayne area TM/DAB
Nankin Transit Commission's system southwest of Detroit for the elderly and handicapped.

MICHIGAN, Wayne County TM/DAB
Office of Aging vehicles for Senior Citizens Centers in Wayne County.

MICHIGAN, Wayne County TM/DAB
"MEDTRAN", many-to-many, off-peak service for transportation of the elderly to medical facilities.

MICHIGAN, West Michigan Four County Public Transit Consortium GM/
Rural demonstration project (funded by FHWA Section 147), started Nov. 1976.

MINNESOTA, Mankato TM/DAB
"MUST", city operated, advanced reservation dial-a-ride bus system for the elderly and handicapped.

MINNESOTA, Moorhead TM/DAB
County Opportunity Council contracts with private operator to provide advanced reservation free dial-a-ride service for the elderly and handicapped.

MINNESOTA, Morris GM/MIX
Taxi-based plus dial-a-bus system.

MINNESOTA, St. Cloud TM/DAB
Dial-a-ride for handicapped provided by St. Cloud Metropolitan Transit Commission.

MINNESOTA, St. Paul - Minneapolis TM/DAB
Metropolitan Transit Commission demonstration started in November 1976 for handicapped persons in north Minneapolis.

MINNESOTA, Scott County TM/DAB
Senior citizen's minibus many-to-many service; until 1976 was a two-county system with Carver County.

MINNESOTA, Carver County TM/DAB
Senior citizen's minibus many-to-many service.

MISSISSIPPI, Jackson /DAB
Jackson Transit Corporation contract with city to provide five to nineteen passenger minibuses.

#101 MISSOURI, Oats TM/DAB

MISSOURI, Fort Leonard Wood GM/SRT
Two shared-ride taxi companies (Fort Cab and Long Cab) offering many-to-many service since 1958.

MISSOURI, Joplin TM/SRT

MISSOURI, St. Louis County TM/DAB
Bi-State Development Agency's "Bus Plus" pilot project in eleven square mile area to start March 1978 with advanced reservation and subscription, curb-to-curb service for the elderly and handicapped.

MISSOURI, Sullivan County TM/DAB
Fixed route with demand-responsive service for the elderly in rural area.

MONTANA, Golden Valley County TM/DAB
Ryegate senior citizen's bus service in a rural area.

MONTANA, Helena TM/DAB
Many-to-many senior citizen service.

NEBRASKA, Blue River area TM/DAB
Fixed schedule with deviations service in rural area for elderly persons.

#102 NEBRASKA, Lincoln TM/DAB

NEBRASKA, Omaha TM/DAB
Metropolitan area transit van service for eligible senior citizens.

#103 NEBRASKA, Western area TM/DAB

NEVADA, Clark County TM/DAB
Economic Opportunity Board system for the elderly and handicapped in Las Vegas area.

NEVADA, Washoe County TM/DAB
Elderport Services system for the elderly and handicapped in Reno and Sparks area.

NEW HAMPSHIRE, Rochester GM/DAB
Rochester dial-a-ride system initiated in 1974 by private entrepreneur.

NEW JERSEY, Cape May County TM/DAB
Dial-A-Ride Escort Service for elderly, handicapped and low income persons.

NEW JERSEY, Sussex - Warren - Somerset Counties TM/DAB
Pioneer On Wheels van system for the elderly in rural area.

#47 NEW YORK, Batavia GM/DAB

#76 NEW YORK, Hicksville GM/SRT

NEW YORK, Huntington GM/SRT
Shared-ride taxi feeder system on Long Island.

NEW YORK, Massapequa GM/SRT
Taxi-based dial-a-ride on Long Island.

A3

NEW YORK, Livingston County — TM/DAB
Advance reservation service for elderly and handicapped persons.

NEW YORK, Oneonta — /DAB
Many-to-many, subscription demand-responsive bus service.

#81 NEW YORK, Rochester — GM/DAB Integrated

NEW YORK, Suffolk County — GM/DAB
Non-fixed route minibus service.

#104 NEW YORK, Syracuse — TM/DAB

NEW YORK, West Orange — GM/DAB
Minibus feeder service to arterial routes.

NORTH CAROLINA, Anson County — TM/DAB
Fixed schedule and demand-responsive sive van service in rural area.

NORTH CAROLINA, Choanoke area — TM/DAB
Demand-responsive service in rural area.

NORTH CAROLINA, Greensboro — TM/DAB
Gate van system for elderly and handicapped persons.

NORTH CAROLINA, Union County — TM/DAB
Community Action Agency van service in rural area.

NORTH CAROLINA, WAKE COUNTY — TM/DAB
Demand-responsive bus service in rural area.

#105 NORTH DAKOTA, West River — TM/DAB

OHIO, Akron — TM/MIX
SCAT system for the elderly and handicapped using small buses in some zones; contract with taxi companies in other zones.

OHIO, Athens - Hocking - Perry Counties — GM/DAB
Tri-county rural transportation system of small buses in rural area.

#121 OHIO, Cuyahoga County (Cleveland) — TM/MIX

#48 OHIO, Columbus — GM/DAB

OHIO, Columbus — TM/SRT
Many-to-many taxi service for the elderly and handicapped.

OHIO, Geauga County — TM/DAB
Dial-a-bus for transit dependents funded as a rural highway demonstration project.

#106 OHIO, Kent — TM/DAB

OHIO, Lake County — TM/DAB
Dial-a-bus service for the elderly and handicapped.

OHIO, Miami — TM/DAB
Miami Valley Regional Transit Authority work and school trip service for the elderly and handicapped.

OHIO, Oberlin — TM/DAB
City operated demand-responsive advance reservation service for the elderly.

OHIO, Youngstown TM/
Eastgate Development and Transportation Agency service for the elderly and handicapped.

#77 OHIO, Xenia GM/SRT

OKLAHOMA, Lawton - proposed

OKLAHOMA, Northeastern TM/DAB
Inter-Tribal Council five-county route deviation van service.

OREGON, Columbia County TM/DAB
Van service for senior citizens in rural area.

OREGON, Eugene - Springfield TM/DAB
A dial-a-bus zonal system designed to service an eighteen thousand elderly and handicapped population within the city.

OREGON, Linn County TM/DAB
Rural bus service for the elderly.

OREGON, Medford GM/
Route deviation service.

#108 OREGON, Portland TM/DAB

OREGON, Reedsport GM/DAB
Fixed route with deviation service for three small towns.

OREGON, Hood River area TM/DAB
Senior Citizen Transportation Inc. van service for the elderly in rural area.

PENNSYLVANIA, Demand-Responsive Rural Systems

- Rural Transportation Alliance (Indiana, Pennsylvania) TM/
- Chester County Rural Transportation Consortium TM/
- Area Transportation Authority of North Central Pennsylvania (Ridgway) TM/
- Lancaster Integrated Specialized Transportation System TM/
- York Transportation Club TM/

#109 PENNSYLVANIA, Carbon County TM/DAB

#110 RHODE ISLAND TM/DAB

RHODE ISLAND, Cranston TM/DAB
Transvan service for the elderly and handicapped.

SOUTH CAROLINA, Greenwood TM/DAB
Six county GMAS transportation program for elderly and poor persons in rural area.

TENNESSEE, Chattanooga TM/DAB
Advance reservation demand-responsive bus service system.

TENNESSEE, Kingsport area TM/DAB
Upper East Tennessee Human Development Agency and volunteer Kingsport van service for the elderly, poor and Head Start youth in rural area.

TENNESSEE, Southeast State TM/DAB
Commuter van program from rural areas to Chattanooga funded as a federal highway demonstration project.

A3

TENNESSEE, Macon County — TM/DAB
Fixed schedule and demand-responsive service for the elderly in rural area.

TENNESSEE, . McMinnville — TM/DAB
Four-county van system for the poor, elderly and handicapped persons in rural area.

#111 TEXAS, Austin — TM/DAB

TEXAS, Corpus Christi — TM/DAB
City-run system of twelve vans for elderly persons.

TEXAS, Dallas - proposed — TM/DAB
Highland Hills Transportation Service of vans for the handicapped.

TEXAS, El Paso — TM/DAB
Handy Scat

#112 TEXAS, Houston — TM/DAB

TEXAS, San Antonio — TM/DAB
Handi-Lift program operative demand-responsive van service for the handicapped.

VERMONT, Winooski (Champlain Valley) — TM/DAB
Four-county van service in rural area for human service agency clientele, Head Start and poor persons.

VIRGINIA, Lynchburg — TM/
Social service dial-a-ride for elderly, handicapped and mentally retarded persons.

VIRGINIA, Richmond — GM/SRT
Many-to-many taxi service.

VIRGINIA, South East area — TM/DAB
South East Virginia areawide model program (SEVAMP) advanced reservation service for the elderly.

WASHINGTON, Bremerton — GM/SRT
Taxi feeder service to fixed-route transit started in 1977.

WASHINGTON, King County — TM/DAB
Run by METRO demand-responsive service for the handicapped in low income HUD housing complex in Seattle area.

WASHINGTON, Richland — TM/SRT
Taxi-based service for the elderly and handicapped.

WASHINGTON, Spokane — TM/DAB
YMCA contract with city to provide demand-responsive van service for the elderly and handicapped.

WASHINGTON, Yakima County — TM/DAB
Interagency County Transportation Exchange, co-ordinated motor pool for the elderly and handicapped.

WASHINGTON D.C. — GM/SRT
Shared-ride taxi service.

WEST VIRGINIA — TM/DAB
TRIP, user-side subsidy van program for the elderly and handicapped.

78 WISCONSIN, Madison — GM/SRT

WISCONSIN, Madison — TM/DAB
Madison Metro subscription and demand-responsive service for the elderly and handicapped.

#50 WISCONSIN, Merrill GM/DAB

WISCONSIN, Milwaukee TM/SRT
Handicab service for the handicapped.

DISCONTINUED SYSTEMS

#1 CALIFORNIA, Apple Valley GM/DAB

#54 CALIFORNIA, Bellflower GM/SRT

CALIFORNIA, Catalina Island TM/SRT
Exclusive-ride and shared-ride service, operated by A-1 Taxi Company, mostly for the elderly.

CALIFORNIA, Chico /DAB
"Your Bus", a many-to-many service in the city with a twice-a-day shuttle to Paradise (California).

CALIFORNIA, Richmond GM/DAB
Many-to-many dial-a-ride service in a section of Richmond.

CALIFORNIA, San Ysidro /DAB
Nine van dial-a-bus service funded by Model Cities.

CALIFORNIA, Santa Barbara TM/SRT
Dial-a-ride van service provided by Yellow Cab Company.

CALIFORNIA, Santa Clara County GM/DAB
County-wide dial-a-ride system integrated with fixed-route service.

#66 CALIFORNIA, Victorville GM/SRT

FLORIDA, Fort Walton Beach GM/DAB
Call-a-bus route deviation service.

FLORIDA, West Palm Beach TM/DAB
The "Liftline", a fixed-route service with deviations for social service recipients.

IOWA, Cedar Rapids TM/DAB
"Seats", a demand-responsive van service for the elderly.

MARYLAND, Columbia GM/DAB
Call-a-ride service within the community replaced by ColumBUS, a minibus service operating on a fixed route.

#17 MARYLAND, Gaithersburg GM/DAB

#43 MICHIGAN, Roscomon County GM/DAB

MINNESOTA, Minneapolis GM/DAB
Model Cities demonstration project operated in southern section of city during 1975.

#46 NEW JERSEY, Haddonfield GM/DAB

NEW YORK, Bronx TM/MIX
Dial-a-ride service for the elderly operated in the Bronx from June of 1972 to October 1973.

NORTH CAROLINA, Onslow County TM/DAB
Fixed schedule and demand-responsive service for transit dependent persons in rural area.

#107 OHIO, Kent TM/DAB

OHIO, Mansfield — GM/DAB
Early dial-a-ride project, diverting a fixed route van by a direct call to the driver.

#49 TEXAS, Dallas — GM/DAB

VIRGINIA, Arlington County — GM/SRT
Many-to-many subscription shared-ride taxi service demonstration in 1975. Proposal exists for reinitiating service.

VIRGINIA, Fairfax City — GM/DAB
Subscription service during peak hours to transit stops; many-to-many service on other hours of minibus operation service.

WASHINGTON D.C., Anacostia — TM/SRT
Many-to-one dial-a-ride feeder service.

CANADIAN SYSTEMS

#122 ALBERTA, Calgary — GM/DAB

ALBERTA, Edmonton — TM/DAB
DATS minibus system for the handicapped, operated by Edmonton Handibuses Association under contract to the city.

MANITOBA, Winnipeg - discontinued — GM/DAB
Service was begun in 1974; replaced by fixed-route service in June 1977 due to high costs.

#123 ONTARIO, Bay Ridges — GM/DAB

ONTARIO, Bramalea — GM/DAB
Service was begun in 1973; replaced by fixed-route service in 1976 due to heavy demand (600,000 annual ridership in 1975 in a city with 52,000 people).

#124 ONTARIO, Burlington — GM/DAB

#125 ONTARIO, Cambridge — GM/DAB

ONTARIO, Kingston — GM/DAB
System provides off-peak service begun in 1972 serving two zones and expanded to five zones in 1975.

#126 ONTARIO, Kitchener — GM/DAB

ONTARIO, Ottawa — GM/DAB
Teletranspo system operated by city of Ottawa.

#129 ONTARIO, Peterborough — GM/SRT

ONTARIO, Stratford — GM/DAB
Many-to-few off-peak service, replacing evening fixed-route bus service.

ONTARIO, Sudbury - discontinued — GM/DAB
Subscription service begun in 1972 and terminated in 1974 due to high costs and poor patronage.

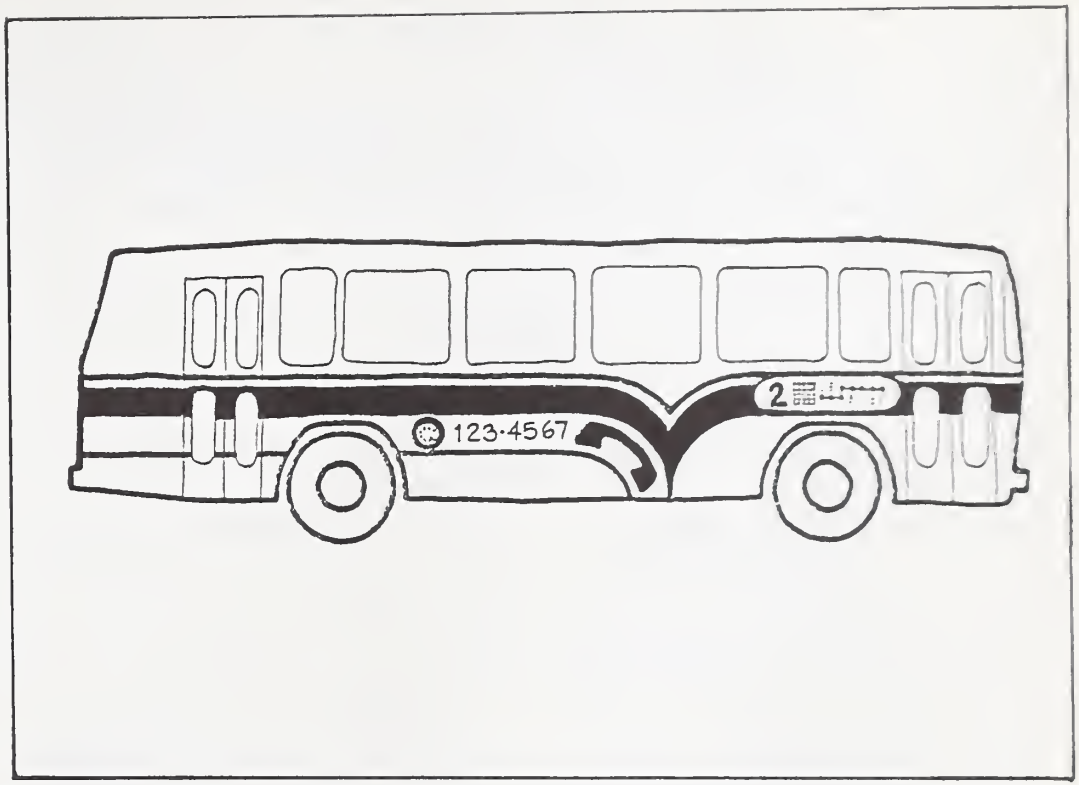
#127 ONTARIO, York Mills - discontinued — GM/DAB

#128 SASKATCHEWAN, Regina — GM/DAB

SYSTEM SUMMARY SHEETS A4

The summary sheets are arranged and numbered according to the following categories. Each category is also identified by a symbol.

	Number	
General Market - Dial-A-Bus	1-50	
General Market - Shared-Ride Taxi	51-78	
Integrated Systems (Dial-A-Ride portion of system only)	79-81	Appropriate Symbol + Integrated
Target Market - Dial-A-Bus	82-112	
Target Market - Shared-Ride Taxi	113-119	
Target Market - Mixed	120-121	
Canadian Systems	122-129	



General Market Dial-a-Bus

System Name: DIAL-A-RIDE (discontinued)

Location: Apple Valley, Hesperia, California

Organization: Authority & Operator: County of San Bernardino

Project History: DAR began in Aug. 1975 in Apple Valley and expanded to Hesperia in Nov. 1975. Service was discontinued Feb. 1976.

Institutional Issues:

System No. 1

Area Description

Population: 16,000

Service Area Pop. 16,000

Target Group Pop.

Service Area Size: 104 sq.mi.

Number of Zones:

Pop. Density of Service Area: 154/sq. mi

Service Area Type: entire county

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to F: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 2

Peak: Off-Peak:

Hours of Service: Mon-Wed-Fri, 8:30am-5pm Apple Valley service; Hesperia service Tues, Thurs

Annual Fleet Service Miles: 39,115

Annual Fleet Service Hours: 2,023

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 14 Peak:

Annual Ridership: 3,672 est.

Person-Trips/1000 Residents: .88

Person-Trips/Square Mile: .14

Person-Trips/Square Mile/Hour: .02

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
2		5

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other C.E.T.A.

Service Levels (average time)

Ride Time: 10min Promised Wait Time:

Actual Wait Time (immediate request): 12min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 1.82

Passengers/Vehicle-Mile: .09

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from So. Calif. Assn of Govts (SCAG) statistics.

Data year: 1975

SYSTEM SUMMARY SHEETS

System Name: ELACIA DIAL-A-RIDE

System No. 2

Location: East/Northeast Los Angeles, California

Organization: Sponsor: City of Los Angeles
Operator: East L.A. Community Improvement Assn

Project History: HUD funded project for four years; Los Angeles city council voted funding continued

Institutional Issues:

Area Description

Population: 2,800,000

Service Area Pop. 143,562

Target Group Pop.

Service Area Size: 18.6 sq.mi.

Number of Zones:

Pop. Density of Service Area: 7718 sq. mi

Service Area Type: section of city

Eligible Ridership: ALL Priority to elderly

Integrated with Fixed-Route System: no

Supply

Service Type: m-to-m: peak/off peak

Fares: Regular 15¢

Special free for handicapped

Vehicles in Service: 8

Peak: Off-Peak:

Hours of Service: Mon.-Fri. 7am-6pm

Annual Fleet Service Miles: 312,132

Annual Fleet Service Hours: 21,504

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 491 Peak:

Annual Ridership: 123,768

Person-Trips/1000 Residents: 3.4

Person-Trips/Square Mile: 26.0

Person-Trips/Square Mile/Hour: 2.4

Trip Length: 1.8 miles

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reserv. (24 hrs), subscription, group (48 hrs)

Vehicles

#	Type	Capacity
9	van	15
1	van	13

Special Features:

Communication/Dispatching:

Mobile Communications:

Control Center:

Computer:

Labor:

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time:

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.8

Passengers/Vehicle-Mile: .40

Economics

Cost/Passenger Trip: $3.13

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $18.04

Drivers' Salary: $ /hour

System Contact:

References Used: System documentation from L.A. Dept. of Public Util. & Transp., Analysis of Dial-A-Ride in the City of Los Angeles, Nov. 1976; and So. Calif. Assoc. of Govts (SCAG) statistics. Data year: 1976.

SYSTEM SUMMARY SHEETS

System Name:

Location: El Segundo, California

Organization: Sponsor & Operator: City of El Segundo

Project History:

Institutional Issues:

System No. 3

Area Description

Population: 15,750

Service Area Pop. 15,750

Target Group Pop.

Service Area Size: 5.5 sq.mi.

Number of Zones:

Pop. Density of Service Area: 2864/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: off peak

Fares: Regular Free

Special

Vehicles in Service: 1

Peak: Off-Peak:

Hours of Service: mon-Fri. 9 am - 3 pm

Annual Fleet Service Miles: 18,000

Annual Fleet Service Hours: 1,560

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 50 est. Peak:

Annual Ridership: 11,558

Person-Trips/1000 Residents: 3.2

Person-Trips/Square Mile: 9.1

Person-Trips/Square Mile/Hour: 1.5

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
1	van	12

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.4

Passengers/Vehicle-Mile: .64

Economics

Cost/Passenger Trip: $1.82

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $13.46

Drivers' Salary: $ /hour

System Contact:

References Used: So. California Association of Governments (SCAG) statistics
Data year: 1976

System Name: DART

Location: Fairfield, California

Organization: Sponsor, Planner & Operator: City of Fairfield, Consultant: DAVE Systems, Inc.

Project History: DART system preceded by the Fairfield Flyer - a subsidized taxi service for elderly & handicapped (10-74 to 9-75).

Institutional Issues: minor problems with funding & regulations

System No. 4

Area Description

Population: 44,146

Service Area Pop. 40,000

Target Group Pop. ____

Service Area Size: 7.8 sq.mi.

Number of Zones: ____

Pop. Density of Service Area 5128/sq. mi

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off-peak

Fares: Regular 50¢

Special 25¢ E & H

Vehicles in Service: 5

Peak: 5 Off-Peak: 3

Hours of Service: Mon-Fri 7am-7pm
Sat. - 9am - 5pm

Annual Fleet Service Miles: 179,825

Annual Fleet Service Hours: 11,938

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 350 est. Peak: ____

Annual Ridership: 93,773

Person-Trips/1000 Residents: 8.8

Person-Trips/Square Mile: 44.9

Person-Trips/Square Mile/Hour: 3.7

Trip Length: ____

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Immed. serv., Adv. reserv., subscription

Vehicles

#	Type	Capacity
5	van	13
___	___	___
___	___	___

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer: ____

Labor

Union ☐ Non-Union ☒ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: ____ Promised Wait Time: ____

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 7.9

Passengers/Vehicle-Mile: .52

Economics

Cost/Passenger Trip: $ 1.74

Revenue/Passenger Trip: $ .40

Cost/Vehicle-Hour: $ 13.64

Drivers' Salary: $ ____/hour

System Contact: Robt. Berman
City of Fairfield
1000 Webster St.
Fairfield, Calif. 94533

References Used: System documentation supplied by City of Fairfield
Data year: 1976

SYSTEM SUMMARY SHEETS

System Name:

Location: Hemet, California

Organization: Sponsor: City of Hemet
Operator: Riverside Transit Agency (4-77)
Dave Systems (1976)

Project History: Service started in Jan. 1974; in late 1976 change operator from city to DAVE Systems; and in April 1977, the Riverside Transit Agency took over the system.

Institutional Issues:

System No. 5

Area Description

Population: 16,700

Service Area Pop. 16,700

Target Group Pop.

Service Area Size: 5.9 sq.mi.

Number of Zones:

Pop. Density of Service Area 2831/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m-to-m: peak/off peak

Fares: Regular 50¢

Special free: children

Vehicles in Service: 3

Peak: Off-Peak:

Hours of Service: Mon-Fri 9am-5pm

Annual Fleet Service Miles: 70,125

Annual Fleet Service Hours: 5760

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 100 Peak:

Annual Ridership: 24,000

Person-Trips/1000 Residents: 6.0

Person-Trips/Square Mile: 16.9

Person-Trips/Square Mile/Hour: 2.1

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
3	van	10

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 7 min. Promised Wait Time:

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.2

Passengers/Vehicle-Mile: .34

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $4.45/hour 2.75 for part-time

System Contact:

References Used: system documentation from: So. Calif. Assn of Govts (SCAG) statistics and Calif. DOT, Transguide, SOA 2.44. Data year: 7-75 to 6-76

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Ride

Location: Hollywood-Westlake-E. Wilshire, Calif.

Organization: Sponsor: City of Los Angeles.
Operator: Educational & Recreational Services

Project History: Discontinued at the end of 1976. To restart in May 1978 with Golden State Transit as operator. Also to operate as two systems: Hollywood and Westlake-E. Wilshire in an expanded service area.

Institutional Issues: funding problem: budgeted funds exhausted; future funding uncertain

System No. 6

Area Description

Population: 2,800,000

Service Area Pop. 243,535

Target Group Pop. ____

Service Area Size: 13.0 sq.mi.

Number of Zones: ____

Pop. Density of Service Area 18733/sq. mi

Service Area Type: section of city

Eligible Ridership: All
Priority to elderly

Integrated with Fixed-Route System: no

Supply

Service Type: m-to-m: peak/off peak

Fares: Regular 15¢

Special ____

Vehicles in Service: 9

Peak: ____ Off-Peak: ____

Hours of Service: mon.-Fri. 7am-7pm
Sat. 10am-6pm

Annual Fleet Service Miles: 301,728

Annual Fleet Service Hours: 21,240

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 239 Peak: ____

Annual Ridership: 73,044

Person-Trips/1000 Residents: 1.0

Person-Trips/Square Mile: 18.4

Person-Trips/Square Mile/Hour: 1.5

Trip Length: 3.8 miles

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reserv. (24hr.), subscription, group (48hr)

Vehicles

#	Type	Capacity
9	van	16
___	____	____
___	____	____

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: ____

Control Center: ____

Computer: ____

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: ____

Actual Wait Time (immediate request): 9 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 3.4

Passengers/Vehicle-Mile: .24

Economics

Cost/Passenger Trip: $3.34

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: $11.47

Drivers' Salary: $____/hour

System Contact: ____

References Used: System documentation from L.A. Dept. of Public Util. & Transp., Analysis of Dial-A-Ride Service in the City of Los Angeles, Nov. 1976; and So. Calif. Assoc. of Govts. (SCAG) statistics. Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: La Habra Dial-A-Ride

Location: La Habra, California

Organization: Authority & Planner: Orange Co. Transit District
Operator: DAVE Systems Inc

Project History: Expanded service area to include City of Brea (10-76).

Institutional Issues: none

System No. 7

Area Description

Population: 65,128

Service Area Pop. 65,128

Target Group Pop. ____

Service Area Size: 15.8 sq.mi.

Number of Zones: -

Pop. Density of Service Area: 4122/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: · Fixed route bus
· D-A-R in other zones

Supply

Service Type: M to M: Peak/Off Peak

Fares: Regular 50¢

Special 25¢ E & H

Vehicles in Service: 10

Peak: 10 Off-Peak: 4

Hours of Service: Mon.-Fri 6am-7pm
Sat. 6am-7pm

Annual Fleet Service Miles: 295,000

Annual Fleet Service Hours: 21,700

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 420 Peak: 260

Annual Ridership: 144,000

Person-Trips/1000 Residents: 7.2

Person-Trips/Square Mile: 29.7

Person-Trips/Square Mile/Hour: 2.3

Trip Length: ____

Access

User: Phone

Pick-up Points: House

Access Time: Immed., Subscription

Vehicles

#	Type	Capacity
11	small bus	19

Special Features: ____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer: no computer

Labor

Union ☐ Non-Union ☒ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 37 min.

Pick-Up Deviation (advanced request): N/A

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 6.6

Passengers/Vehicle-Mile: .49

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: $ .32

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: Sharon Neely
Orange Co. Transit District
1200 N. main St.
Santa Ana, Calif. 92702

References Used: System documentation supplied by Orange Co. Transit District
Data year: FY 1978

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: La Mirada, California

Organization: Sponsor: City of La Mirada
Operator: DAVE Systems Inc.

System No. 8

Project History:

Institutional Issues: Funding problems - difficulties with UMTA Sec. 5 grant; minor problems with insurance and permits/licensing

Area Description

Population: 39,696

Service Area Pop. 39,696

Target Group Pop.

Service Area Size: 7.0 sq. mi.

Number of Zones:

Pop. Density of Service Area 5671 /sq. mi.

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 25¢

Special 10¢ E & H

Vehicles in Service: 7

Peak: Off-Peak:

Hours of Service: Mon-Fri 7am-7pm
Sat. 9am-5pm

Annual Fleet Service Miles: 208,197

Annual Fleet Service Hours: 15,710

Number of Employees: 14

Drivers: 10 Control Room: 2

Maintenance: 2

Demand

Weekday Ridership 389 Peak:

Annual Ridership: 119,399

Person-Trips/1000 Residents: 9.8

Person-Trips/Square Mile: 55.6

Person-Trips/Square Mile/Hour: 4.6

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time: subscription

Vehicles

#	Type	Capacity
3	small bus	18
4	van	12	

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 12.7 min Promised Wait Time:

Actual Wait Time (immediate request): 19.9 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passenners/Vehicle-Hour: 7.6

Passengers/Vehicle-Mile: .57

Economics

Cost/Passenger Trip: $1.53

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $11.64

Drivers' Salary: $3.50/hour 40% fringe benefits

System Contact: Bil Aulenbach
City of La Mirada
13700 La Mirada Blvd.
La Mirada, Calif. 90638

References Used: System documentation supplied by City of La Mirada and SCAG statistics.
Data Year: 7-75 to 6-76

SYSTEM SUMMARY SHEETS

System Name: Lompoc Transit System

Location: Lompoc, California

Organization: Authority: City of Lompoc
Operator: Community Action Council

Project History: Replaced fixed route system

Institutional Issues: minor problems with political response, legal & regulatory issues.

System No. 9

Area Description

Population: 31,155

Service Area Pop. 31,155

Target Group Pop. ____

Service Area Size: 2 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 15578/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: M to M; Peak/Off Peak

Fares: Regular 25¢

Special 10¢ E (over 60)

Vehicles in Service: 2

Peak: 2 Off-Peak: 2

Hours of Service: Mon.-Fri. 7:30am-5:30pm
Sat. 9am-4pm

Annual Fleet Service Miles: 66,039

Annual Fleet Service Hours: 4,524

Number of Employees: 6

Drivers: 3 Control Room: 1-2

Maintenance: ½

Demand

Weekday Ridership: 178 Peak: ____

Annual Ridership: 43,670

Person-Trips/1000 Residents: 5.7

Person-Trips/Square Mile: 89.0

Person-Trips/Square Mile/Hour: 8.9

Trip Length: ____

Access

User: Phone, hail, fixed stops

Pick-up Points: House, hail, designated stops

Access Time: Immed., subscription, advance reservation

Vehicles

#	Type	Capacity
2	small bus	16

Special Features: ____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: ____

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 9.7

Passengers/Vehicle-Mile: .66

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: Dolores Suter
Lompoc Transit
205 N-H Suite 221
Lompoc, California
93436

References Used: System documentation supplied by Lompoc Transit.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Merced, California

Organization: Sponsor: City of Merced
Operator: Merced Transit System

System No. 10

Project History:

Institutional Issues:

Area Description

Population: 30,000

Service Area Pop. 30,000

Target Group Pop.

Service Area Size: 10 sq.mi.

Number of Zones:

Pop. Density of Service Area 3000/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: no

Supply

Service Type: mtom: peak/off peak

Fares: Regular 25¢
Special free-children

Vehicles in Service: 4

Peak: _____ Off-Peak: _____

Hours of Service:
Mon-Fri 7:15am-5:15 pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 6

Drivers: 5.5 Control Room: ___

Maintenance: 1

Demand

Weekday Ridership: 330 Peak: ___

Annual Ridership: 85,800 est.

Person-Trips/1000 Residents: 11.0

Person-Trips/Square Mile: 33.0

Person-Trips/Square Mile/Hour: 3.3

Trip Length: 1.7 miles

Access

User: Phone

Pick-up Points: House, designated Points

Access Time: Adv. reserv. (6 hrs), subscription

Vehicles

#	Type	Capacity
4	van	14
___		
___		

Special Features: no lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 14.5 min Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 2.5 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip: $ .93

Revenue/Passenger Trip: $ .25

Cost/Vehicle-Hour:

Drivers' Salary: $3.75/hour

System Contact:

References Used: System documentation from report: DOT/UMTA, Small City Transit, Merced, Ca., March 1976; DAVE Systems Background Data Sheet. Data year: mid 74 - mid 75

SYSTEM SUMMARY SHEETS

System Name: Placer Co. minibus

Location: Placer Co., California

Organization: Planned and operated by Placer County

System No. 11

Project History: Initiated in 1-74, additional routes were added 5-75 which increased ridership. In 7-76 a pilot project for short-route tried which was unsuccessful and discontinued.

Institutional Issues: Severe insurance problem: rates have increased 100% over past two years. Minor problems with regulations and political response

Area Description

Population: 95,000

Service Area Pop. 95,000

Target Group Pop. _____

Service Area Size: 700 sq.mi.

Number of Zones: 28

Pop. Density of Service Area: 136/sq. mi

Service Area Type: Entire County: rural

Eligible Ridership: ALL

Integrated with Fixed-Route System: local fixed-route bus

Supply

Service Type: Deviation from route: peak/off-peak

Fares: Regular 40¢

Special 75¢ excursion

Vehicles in Service: 4

Peak: _____ Off-Peak: _____

Hours of Service: mon. - Fri. 6:30am - 6:30pm

Annual Fleet Service Miles: 145,000

Annual Fleet Service Hours: 7,500

Number of Employees: 7

Drivers: 6 Control Room: 1

Maintenance: Contract

Demand

Weekday Ridership: 121 Peak: ___

Annual Ridership: 30,200

Person-Trips/1000 Residents: 1.3

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .01

Trip Length: _____

Access

User: Phone, flag stops

Pick-up Points: House

Access Time: Advance reservation (24 hrs)

Vehicles

#	Type	Capacity
3	van	12
1	small bus	24
1	cab	12

Special Features: _____

Communication/Dispatching

Mobile Communications: telephone

Control Center: _____

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other _____

Service Levels (average time)

Ride Time: 30 min. Promised Wait Time: _____

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: _____

Productivity

Passengers/Vehicle-Hour: 4.0

Passengers/Vehicle-Mile: .21

Economics

Cost/Passenger Trip: $ 4.47

Revenue/Passenger Trip: $ .25

Cost/Vehicle-Hour: $ 18.00

Drivers' Salary: $ 4.75/hour + 20% fringe benefits

System Cntact: Grayson Marshall
Transit manager
Placer Co. minibus
Dept. of Public Works
11444 B Ave
Auburn, Calif. 95603

References Used: System documentation supplied by Transit manager, Placer County
Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Rubidoux, California

Organization: Sponsor: County of Riverside
Operator: Orange Cab (since 6-77)
formerly Omnitrans operated

Project History:

Institutional Issues:

System No. 12

Area Description

Population: 17,493

Service Area Pop. 17,493

Target Group Pop.

Service Area Size: 8.5 sq. mi.

Number of Zones:

Pop. Density of Service Area 2058/sq. mi

Service Area Type: suburban area

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to F: peak/off peak

Fares: Regular 25¢

Special Free - children

Vehicles in Service: 1

Peak: Off-Peak:

Hours of Service: Mon - Fri 6:30am - 7:30pm
Sat. - 7am - 7pm

Annual Fleet Service Miles: 60,480

Annual Fleet Service Hours: 3931

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 79 Peak:

Annual Ridership: 23,849 est.

Person-Trips/1000 Residents: 4.5

Person-Trips/Square Mile: 9.3

Person-Trips/Square Mile/Hour: .8

Trip Length:

Access

User: Phone, mail

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
1	small bus	18

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 10 min Promised Wait Time:

Actual Wait Time (immediate request): 11 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.1

Passengers/Vehicle-Mile: .39

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $5.37/hour

System Contact:

References Used: System documentation from: So. Calif. Ass'n of Govts (SCAG) Statistics and Calif. DOT, Transguide, SCA 2.82. Data year: 75-76

SYSTEM SUMMARY SHEETS

System Name: Good Sam Trans

Location: Tracy, California

Organization: Authority & Planner: City of Tracy
Operator: Dave Systems

Project History: Increased hours of operation from 6pm to 7pm

Institutional Issues: severe insurance problem: cost of covering non-profit group liability insurance; minor problems with regulation, licensing, funding and political response.

System No. 13

Area Description

Population: 16,500

Service Area Pop. 16,500

Target Group Pop. ____

Service Area Size: 5 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 3300/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: Peak/Off Peak

Fares: Regular 50¢

Special 25¢ E&H

Vehicles in Service: 4

Peak: 3 Off-Peak: 2

Hours of Service: Mon.-Fri. 7am-7pm

Annual Fleet Service Miles: 61,581

Annual Fleet Service Hours: 4,408

Number of Employees: 8

Drivers: 4 Control Room: 2

Maintenance: ____

Demand

Weekday Ridership: 151 Peak: ____

Annual Ridership: 36,117

Person-Trips/1000 Residents: 9.2

Person-Trips/Square Mile: 30.2

Person-Trips/Square Mile/Hour: 2.5

Trip Length: ____

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reservation, subscription

Vehicles

#	Type	Capacity
2	van	6
2	van	14
___	___	___

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer: no computer

Labor

Union ☐ Non-Union ☒ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 11.9 min Promised Wait Time: 19.6 min.

Actual Wait Time (immediate request): N/A

Pick-Up Deviation (advanced request): 19.3 min.

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 8.2

Passengers/Vehicle-Mile: .59

Economics

Cost/Passenger Trip: $2.69

Revenue/Passenger Trip: $ .29

Cost/Vehicle-Hour: $22.04

Drivers' Salary: $3- /hour

System Contact: Teri Wilson
City of Tracy
P.O. Box 1024
Tracy, California
95376

References Used: System documentation supplied by City of Tracy
Data year: 11/76 to 11/77

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Turlock, California

Organization: Sponsor: City of Turlock

Operator & Consultants: DAVE Systems Inc.

Project History:

Institutional Issues:

System No. 14

Area Description

Population: 18,000

Service Area Pop. 18,000

Target Group Pop.

Service Area Size: 10 sq.mi.

Number of Zones:

Pop. Density of Service Area 1800/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢

Special 25¢ over 60 yrs.

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service: Mon-Fri 7:30 am - 5:30 pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership 248 Peak:

Annual Ridership: 64,480 est.

Person-Trips/1000 Residents: 13.8

Person-Trips/Square Mile: 24.8

Person-Trips/Square Mile/Hour: 2.5

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
3	small buses	16
1	van	6

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip: $1.32

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $8.81

Drivers' Salary: $ /hour

System Contact:

References Used: System documentation from reports: Calif. DOT, Transguide, SOA 2.98. and TSM from Stanislaus Co., Calif. Cost data: DAVE Systems 12-75

Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE (WILCAC)

System No. 15

Location: Watts, California

Organization: Sponsor: City of Los Angeles
Operator: Watts Labor Community Action Com.

Project History: HUD funded project for four years; Los Angeles City council voted funding continued.

Institutional Issues:

Area Description

Population: 2,800,700

Service Area Pop. 122,445

Target Group Pop.

Service Area Size: 9.6 sq.mi.

Number of Zones:

Pop. Density of Service Area 12755/sq. mi

Service Area Type: section of city

Eligible Ridership: All Priority to elderly

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off peak

Fares: Regular 15¢

Special free for handicapped

Vehicles in Service: 9

Peak: Off-Peak:

Hours of Service: Mon.-Fri. 7am to 6pm

Annual Fleet Service Miles: 175,212

Annual Fleet Service Hours: 13,188

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 343 Peak:

Annual Ridership: 86,436

Person-Trips/1000 Residents: 2.8

Person-Trips/Square Mile: 35.7

Person-Trips/Square Mile/Hour: 3.2

Trip Length: 2.1 miles

Access

User: Phone

Pick-up Points: house

Access Time:

Vehicles

#	Type	Capacity
7	van	11
2	van	15

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 30 min. Promised Wait Time:

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.6

Passengers/Vehicle-Mile: .49

Economics

Cost/Passenger Trip: $3.35

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $21.97

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from L.A. Dept. of Public Util. & Transp., Analysis of Dial-A-Ride in the City of Los Angeles, Nov. 1976; and So. Calif. Assoc. of Govts (SCAG) statistics. Data Year: 1976

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Bus

Location: Bensenville, Illinois

System No. 16

Organization:

Project History:

Institutional Issues: "Because of high cost factor, many local elected officials are against the system."

Area Description

Population: 13,900

Service Area Pop. 13,900

Target Group Pop.

Service Area Size: 7 sq.mi

Number of Zones:

Pop. Density of Service Area: 1985/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: • local fixed route bus • intercity bus

Supply

Service Type: M to M: off peak

Fares: Regular 50¢

Special 25¢ elderly, students

Vehicles in Service: 3

Peak: Off-Peak: 3

Hours of Service: M-F 8:30 am - 2:30 pm

Annual Fleet Service Miles: 30,000

Annual Fleet Service Hours:

Number of Employees: 9

Drivers: 6 Control Room: 2

Maintenance: 3

Demand

Weekday Ridership: 85 Peak: -

Annual Ridership: 22,000

Person-Trips/1000 Residents: 6.1

Person-Trips/Square Mile: 12.1

Person-Trips/Square Mile/Hour: 2.0

Trip Length:

Access

User: Phone, Mail

Pick-up Points:

Access Time: Immed. service

Vehicles

#	Type	Capacity
4	small bus	23

Special Features: -

Communication/Dispatching

Mobile Communications: 2 way radio

Control Center:

Computer: no computer

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: 15-20 min.

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request): 20 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile: .73

Economics

Cost/Passenger Trip: $ 1.82

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $4.44/hour

System Contact: Frank DeVita
Village of Bensenville
700 W. Irving Park Rd.
Bensenville, Ill. 60106

References Used: System documentation supplied by Village of Bensenville.

Data year: 1977

System Name: DIAL-A-RIDE (discontinued)

System No. 17

Location: Gaithersburg, Maryland

Organization: Planner: County Office of Transp. Planning; Operator: Montgomery Co. DOT; Consultant: DAVE Systems Inc.

Project History: Service initiation in April 1975, gradually extend service: 7-75 add ½ hr. to service hours + 9-75 peak hour subscrip. service extended. Then services cutback 10-75

Institutional Issues: Because of deficit/passenger trip of over $2 Co. Executive recommended FY77 budget of a fixed-route system in lieu of highly labor intensive DAR. Budget constraints, then eliminated even the fixed-route service. No service 6-76 to 11-76 when 4 fixed route services started.

Area Description

Population: 27,000

Service Area Pop. 27,000

Target Group Pop. _____

Service Area Size: 6.5 sq.mi.

Number of Zones: 2

Pop. Density of Service Area: 4154/sq. mi

Service Area Type: _____

Eligible Ridership: ALL

Integrated with Fixed-Route System: • local fixed-route bus • demand-responsive system in second zone

Supply

Service Type: M to F: peak
M to M: off peak

Fares: Regular 25¢

Special _____

Vehicles in Service: 8

Peak: _____ Off-Peak: _____

Hours of Service: Subscription: M-F 6-9am 4-7pm
Dial-a-Ride 9am-4pm
Sat. 10am-6pm

Annual Fleet Service Miles: _____

Annual Fleet Service Hours: _____

Number of Employees: _____

Drivers: 18 Control Room: 5

Maintenance: ____

Demand

Weekday Ridership: 600 Peak: ____

Annual Ridership: 187,000 est.

Person-Trips/1000 Residents: 22.2

Person-Trips/Square Mile: 92.3

Person-Trips/Square Mile/Hour: 7.1

Trip Length: _____

Access

User: Phone

Pick-up Points: House

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
____	_____	_____
____	_____	_____
____	_____	_____

Special Features: _____

Communication/Dispatching

Mobile Communications: 1-way paging device, telephone, 2-way radio

Control Center: _____

Computer: no computer

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other County Employees

Service Levels (average time):

Ride Time: _____ Promised Wait Time: _____

Actual Wait Time (immediate request): _____

Pick-Up Deviation (advanced request): _____

Transfer Time: _____

Productivity

Passengers/Vehicle-Hour: _____

Passengers/Vehicle-Mile: _____

Economics

Cost/Passenger Trip: $ 2.16

Revenue/Passenger Trip: $ .21

Cost/Vehicle-Hour: _____

Drivers' Salary: $_____/hour

System Contact: _____

References Used: System documentation from 10 parts: Gaithersburg Dial-A-Ride System June 1977 overview of Gaithersburg Dial-A-Ride; Takoma Park/Silver Spring Fixed Route Minibus systems, March 1976. Paratransit service in the Wash. Metro. Area - March 1977.

Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: Bedford Local Transit

Location: Bedford, Mass.

Organization: Sponsor: Town of Bedford; Authority: Bedford Local Transit; Contractor: Metropolitan Coach

Project History:

Institutional Issues: funding: 50% state subsidy; revenue accounts for only 15% of expenses." Public support appears to be dependent on service benefits to them + 50% state subsidy + evidence of cost cutting."

System No. 18

Area Description

Population: 12,500

Service Area Pop. 12,500

Target Group Pop.

Service Area Size: 14 sq. mi

Number of Zones:

Pop. Density of Service Area 893/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: local fixed route bus

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢

Special 25¢ E&H; 30¢ children

Vehicles in Service: 3

Peak: Off-Peak:

Hours of Service: Mon - Fri 7:45 am - 5 pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 5

Drivers: 2 Control Room: 1

Maintenance: 1 Admin. 1

Demand

Weekday Ridership: 65 Peak:

Annual Ridership: 28,000

Person-Trips/1000 Residents: 5.2

Person-Trips/Square Mile: 4.6

Person-Trips/Square Mile/Hour: .5

Trip Length:

Access

User: Phone

Pick-up Points: house, designated points

Access Time: Immed., advance reservation (1 hr.)

Vehicles

#	Type	Capacity
6	small bus	27

Special Features: none

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 8 min. Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 12 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .33

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Daniel White
Bedford Local Transit
Town Hall, 16 So. Road
Bedford, Mass.
01730

References Used: system documentation supplied by Town of Bedford
Data Year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Alma, Michigan

Organization:

Operater: City of Alma

Project History:

Institutional Issues:

System No. 19

Area Description

Population: 9,790

Service Area Pop. 9,790

Target Group Pop.

Service Area Size: 4.6 sq.mi.

Number of Zones:

Pop. Density of Service Area 2128/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off-peak

Fares: Regular 50¢ 25¢ seniors

Special 0, 25¢, 50¢ children

Vehicles in Service: 4

Peak: 3 Off-Peak:

Hours of Service: Mon-Fri 6:30am - 10 pm Sat 8am - 6pm

Annual Fleet Service Miles: 81,157

Annual Fleet Service Hours: 8,254

Number of Employees: 8.5

Drivers: ____ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 205 Peak: ___

Annual Ridership: 55,161

Person-Trips/1000 Residents: 20.9

Person-Trips/Square Mile: 44.6

Person-Trips/Square Mile/Hour: 2.9

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
4	small bus	15-17

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.7

Passengers/Vehicle-Mile: .68

Economics

Cost/Passenger Trip: $ 1.50

Revenue/Passenger Trip: $ .29

Cost/Vehicle-Hour: $ 10.00

Drivers' Salary: $ /hour

System Cntact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Antrim County, Michigan

Organization:

Operator: Antrim County

Project History:

Institutional Issues:

System No. 20

Area Description

Population: 12,612

Service Area Pop. 12,612

Target Group Pop.

Service Area Size: 467 sq.mi.

Number of Zones:

Pop. Density of Service Area: 27 /sq. mi

Service Area Type: rural county

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular

Special

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service:

Annual Fleet Service Miles: 237,726

Annual Fleet Service Hours: 11,253

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 126 Peak:

Annual Ridership: 31,413

Person-Trips/1000 Residents: 10.0

Person-Trips/Square Mile: .3

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
5		

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.8

Passengers/Vehicle-Mile: .13

Economics

Cost/Passenger Trip: $ 2.14

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $ 5.99

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation from: State of Michigan DART Program.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Belding, Michigan

Organization:

Operator: City of Belding

Project History:

Institutional Issues:

System No. 21

Area Description

Population: 5321

Service Area Pop. 5321

Target Group Pop.

Service Area Size: 4.7 sq.mi.

Number of Zones:

Pop. Density of Service Area: 1132 /sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: mtom: peak / off peak

Fares: Regular 50¢
Special 25¢ seniors 0.25¢ children

Vehicles in Service: 2

Peak: Off-Peak:

Hours of Service:
mon-Fri 6:30am-9:30pm

Annual Fleet Service Miles: 41,696

Annual Fleet Service Hours: 3,976

Number of Employees: 4

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 105 Peak:

Annual Ridership: 29,178

Person-Trips/1000 Residents: 19.7

Person-Trips/Square Mile: 22.3

Person-Trips/Square Mile/Hour: 1.5

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
2		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.3

Passengers/Vehicle-Mile: .70

Economics

Cost/Passenger Trip: $ .85

Revenue/Passenger Trip: $ .23

Cost/Vehicle-Hour: $ 6.22

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program. Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Benton Harbor, Michigan

Organization:

Operator: Twin City Area Transit Authority

System No. 22

Project History:

Institutional Issues:

Area Description

Population: 36,828

Service Area Pop. 56,828

Target Group Pop.

Service Area Size: 51.6 sq.mi

Number of Zones:

Pop. Density of Service Area 1101 /sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 60¢

Special 30¢ seniors 25¢ children

Vehicles in Service: 17

Peak: Off-Peak:

Hours of Service: mon - Fri 6:30 am - 6:30 pm Sat 9 am - 6 pm

Annual Fleet Service Miles: 346,003

Annual Fleet Service Hours: 22,953

Number of Employees: 27.5

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership 450 Peak:

Annual Ridership: 120,721

Person-Trips/1000 Residents: 7.9

Person-Trips/Square Mile: 8.7

Person-Trips/Square Mile/Hour: .7

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
17		

Special Features: 3 with lifts

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.3

Passengers/Vehicle-Mile: .35

Economics

Cost/Passenger Trip: $ 2.69

Revenue/Passenger Trip: $ .41

Cost/Vehicle-Hour: $ 14.14

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program. Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: Big Rapids Dial-A-Ride

Location: Big Rapids, Michigan

Organization: Authority & Planner: City of Big Rapids
Operator: City

Project History:

Institutional Issues: minor problems with funding, legal/regulation issues

System No. 23

Area Description

Population: 11,995

Service Area Pop. 11,995

Target Group Pop.

Service Area Size: 5.1 sq.mi.

Number of Zones:

Pop. Density of Service Area: 2352/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢

Special 25¢ E+H, children

Vehicles in Service: 5

Peak: 5 Off-Peak: 4

Hours of Service: Mon.-Fri. 6:30am-6:30pm
Sat. 9am-6:30pm

Annual Fleet Service Miles: 139,179

Annual Fleet Service Hours: 12,626

Number of Employees: 12

Drivers: 10 Control Room: 2

Maintenance: 2

Demand

Weekday Ridership: 363 Peak:

Annual Ridership: 102,670

Person-Trips/1000 Residents: 30.3

Person-Trips/Square Mile: 71.2

Person-Trips/Square Mile/Hour: 5.9

Trip Length: 1.3 miles

Access

User: Phone, mail

Pick-up Points: House, mail, designated points.

Access Time: Immed. subscription, advance reservation

Vehicles

#	Type	Capacity
4	van	12
1	van	10

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: 10 min Promised Wait Time: 10 min.

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request): 10 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 8.1

Passengers/Vehicle-Mile: .74

Economics

Cost/Passenger Trip: $ .94

Revenue/Passenger Trip: $ .34

Cost/Vehicle-Hour: $ 7.62

Drivers' Salary: $ /hour

System Contact: Walter Miller, Mgr.
Big Rapids Dial-A-Ride
701 N. State St.
Big Rapids, Mich.
49307

References Used: system documentation supplied by Big Rapids City and State of Michigan DART program. Data Year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Crawford County, Michigan

Organization:

Operator: County Aging Commission

System No. 24

Project History:

Institutional Issues:

Area Description

Population: 6,482

Service Area Pop. 6,482

Target Group Pop.

Service Area Size: 540 sq. mi

Number of Zones:

Pop. Density of Service Area: 12 /sq. mi

Service Area Type: entire rural County

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular

Special

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service:

Annual Fleet Service Miles: 201,800

Annual Fleet Service Hours: 10,596

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 190 est. Peak:

Annual Ridership: 49,452

Person-Trips/1000 Residents: 29.3

Person-Trips/Square Mile: .35

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
4		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.7

Passengers/Vehicle-Mile: .24

Economics

Cost/Passenger Trip: $ 1.85

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $ 8.65

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation from: State of Michigan DART Program.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Dawison, Michigan

Organization:

Operator: City of Dawison

Project History:

Institutional Issues:

System No. 25

Area Description

Population: 5259

Service Area Pop. 5,259

Target Group Pop.

Service Area Size: 1.6 sq.mi.

Number of Zones:

Pop. Density of Service Area 3287/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular

Special

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service:

Annual Fleet Service Miles: 103,623

Annual Fleet Service Hours: 8,826

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 215 est. Peak:

Annual Ridership: 61,568

Person-Trips/1000 Residents: 40.9

Person-Trips/Square Mile: 134.4

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time:

Vehicles

#	Type	Capacity
4		

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.0

Passengers/Vehicle-Mile: .59

Economics

Cost/Passenger Trip: $1.10

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $7.69

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: system documentation from: State of Michigan DART program.
Data year: 1977

System Name:

Location: Dowagiac, Michigan

Organization: Authority & Operator: City of Dowagiac

System No. 26

Project History:-

Institutional Issues:-

Area Description

Population: 6,583

Service Area Pop. 7,883

Target Group Pop.

Service Area Size: 4.1 sq.mi.

Number of Zones:-

Pop. Density of Service Area 1923/sq. mi

Service Area Type: entire city & suburban area

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: Deviation from route: peak; m to M: off peak

Fares: Regular 50¢

Special 25¢ E & H, children

Vehicles in Service: 3

Peak: _____ Off-Peak: _____

Hours of Service: Mon. - Fri. 8am - 6pm

Annual Fleet Service Miles: 33,173

Annual Fleet Service Hours: 4,072

Number of Employees: 6

Drivers: 3 Control Room: 2

Maintenance: 1

Demand

Weekday Ridership: 85 Peak: ___

Annual Ridership: 21,765

Person-Trips/1000 Residents: 10.8

Person-Trips/Square Mile: 20.7

Person-Trips/Square Mile/Hour: 2.1

Trip Length: 1 mile

Access

User: Phone, hail, fixed stops

Pick-up Points: designated points

Access Time: subscription: immed. service

Vehicles

#	Type	Capacity
2	van	12
1	van	6

Special Features:-

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 10 min. Promised Wait Time: 15 min.

Actual Wait Time (immediate request): 5 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time:-

Productivity

Passengers/Vehicle-Hour: 5.3

Passengers/Vehicle-Mile: .66

Economics

Cost/Passenger Trip: $1.11

Revenue/Passenger Trip: $.32

Cost/Vehicle-Hour: 5.92

Drivers' Salary:- $ _____/hour

System Contact: Larry Shaw, Asst. Dir. Dept. of Public Services 203 Chestnut St. Dowagiac, Mich. 49047

References Used: system documentation supplied by City of Dowagiac
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: EUPTA Rural Busing Transportation

Location: East Upper Peninsula, Michigan

Organization: Authority: EUPTA; operator: Transit Authority

Project History: Federal Highway Administration Rural Demonstration project

Institutional Issues: no problems.

System No. 27

Area Description

Population: 33,725

Service Area Pop. 33,725

Target Group Pop. ____

Service Area Size: 3372 sq.mi.

Number of Zones: 3

Pop. Density of Service Area: 10 /sq. mi

Service Area Type: rural area

Eligible Ridership: All

Integrated with Fixed-Route System: local fixed route bus

Supply

Service Type: M to O: peak
? M to M: off peak

Fares: Regular $2.00

Special 1.00 E & H

Vehicles in Service: 5

Peak: ____ Off-Peak: ____

Hours of Service: mon.-Fri. 8am-3:10pm

Annual Fleet Service Miles: 208,000

Annual Fleet Service Hours: 8,176 est.

Number of Employees: ____

Drivers: 6 Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 132 Peak: ____

Annual Ridership: 33,463

Person-Trips/1000 Residents: 3.9

Person-Trips/Square Mile: .04

Person-Trips/Square Mile/Hour: .01

Trip Length: ____

Access

User: Phone, hail, fixed stops

Pick-up Points: House, hail, designated points

Access Time: ____

Vehicles

#	Type	Capacity
5	small bus	16
___	___	___
___	___	___

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: ____

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: ____ Promised Wait Time: ____

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 4.1

Passengers/Vehicle-Mile: .16

Economics

Cost/Passenger Trip: 3.77

Revenue/Passenger Trip: $ .36

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: R. Woods, P. Stern
East Upper Peninsula Transportation Auth.
P.O. Box 187
Kinross, mich. 49752

References Used: system documentation supplied by EUPTA
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Eaton Rapids, Michigan

Organization:

Operator: City of Eaton Rapids

System No. 28

Project History:

Institutional Issues:

Area Description

Population: 4,494

Service Area Pop. 4,494

Target Group Pop.

Service Area Size: 2.7 sq.mi.

Number of Zones:

Pop. Density of Service Area 1664/sq. mi

Service Area Type: city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular

Special

Vehicles in Service: 2

Peak: Off-Peak:

Hours of Service:

Annual Fleet Service Miles: 35,509

Annual Fleet Service Hours: 3,105

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 55 est. Peak:

Annual Ridership: 16,183

Person-Trips/1000 Residents: 12.2

Person-Trips/Square Mile: 20.4

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time:

Vehicles

#	Type	Capacity
2		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.2

Passengers/Vehicle-Mile: .46

Economics

Cost/Passenger Trip: $1.49

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $7.77

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: system documentation supplied by: State of Michigan DART Program.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Ferndale - Pleasant Ridge, Michigan

Organization: Sponsor: SEMTA (So. E. Mich. Trans. Auth.)
Operator: City of Ferndale

System No. 29

Project History:

Institutional Issues:

Area Description

Population: 32,130

Service Area Pop. 32,130

Target Group Pop.

Service Area Size: 4.8 sq.mi.

Number of Zones:

Pop. Density of Service Area 6694/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak / off peak

Fares: Regular 50¢

Special 25¢ seniors children

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service:
mon-Fri 6:30am - 6:30pm
Sat - 10am - 4:00pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 4

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 220 est. Peak:

Annual Ridership: 52,800 est.

Person-Trips/1000 Residents: 6.8

Person-Trips/Square Mile: 45.8

Person-Trips/Square Mile/Hour: 3.8

Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time:

Vehicles

#	Type	Capacity
4		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

	Promised
Ride Time:	Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .31

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Michael Dewey
Small Bus Mgr., SEMTA
211 W. Fort St.
Detroit, Michigan
48226

References Used: System documentation from: SEMTA
Data year: 1977

System Name: Dial-A-Ride

Location: Gladwin, Michigan

Organization: Sponsor, Authority & Planner: City of Gladwin
Operator: Gladwin Dial-A-Ride

Project History: Expanded fleet twice; added school route

System No. 30

Institutional Issues: Problems with funding & political response. County opposition exists to funding "expensive public transportation which must be funded through scarce local funds."

Area Description

Population: 2,071
Service Area Pop. 2,071
Target Group Pop. ____
Service Area Size: 2.4 sq.mi.
Number of Zones: -
Pop. Density of Service Area: 863 /sq. mi
Service Area Type: entire city
Eligible Ridership: All
Integrated with Fixed-Route System: none

Supply

Service Type: M-to-M: peak*/ off peak
*Fixed route with door to door deviation during peak

Fares: Regular 50¢
Special 25¢ seniors, 25¢ children

Vehicles in Service: 3
Peak: 3 Off-Peak: 2

Hours of Service: Mon-Fri 7:30am-4:30pm

Annual Fleet Service Miles: 36,635
Annual Fleet Service Hours: 4,528
Number of Employees: 4
Drivers: 2.5 Control Room: 1.5
Maintenance: ____

Demand

Weekday Ridership: 135 Peak: ____
Annual Ridership: 34539
Person-Trips/1000 Residents: 65.2
Person-Trips/Square Mile: 56.2
Person-Trips/Square Mile/Hour: 7.0
Trip Length: 1 mile

Access

User: Phone, mail

Pick-up Points: house, mail, designated points

Access Time: Immed., advance reservation, subscription

Vehicles

#	Type	Capacity
3	vans	30
___	___	___
___	___	___

Special Features: 2 with lift

Communication/Dispatching

Mobile Communications: 2-way radios
Control Center: no computer
Computer: ____

Labor

Union ☐ Non-Union ☒ Volunteer ☐
Part-time ☐ Other ____

Service Levels (average time)
Ride Time: ____ Promised Wait Time: 15 min.
Actual Wait Time (immediate request): 10 min.
Pick-Up Deviation (advanced request): 5 min.
Transfer Time: not applicable

Productivity

Passengers/Vehicle-Hour: 7.6
Passengers/Vehicle-Mile: .94

Economics

Cost/Passenger Trip: $ .99
Revenue/Passenger Trip: $ .14
Cost/Vehicle-Hour: $ 7.53
Drivers' Salary: $ ____/hour

System Contact: Sheila Hall
Gladwin Dial-A-Ride
130 W. Maple
Gladwin, Michigan
48624

References Used: System documentation supplied by City of Gladwin.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: Tri-Cities Dial-A-Ride

System No. 31

Location: Grand Haven, Michigan

Organization: Authority, Planner & Operator: Tri-Cities Transportation Authority

Project History:

Institutional Issues: minor problem with legal/regulations issue. Good backing from citizens and business community.

Area Description

Population: 18,000

Service Area Pop. 18,000

Target Group Pop.

Service Area Size: 7.5 sq.mi.

Number of Zones:

Pop. Density of Service Area: 2400/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak; M to F: off-peak

Fares: Regular 50¢

Special 25¢ Elderly, children

Vehicles in Service: 7

Peak: 7 Off-Peak: 5

Hours of Service: Mon.-Thurs. 6am-6pm; Fri.- 6am-9pm; Sat.- 8am-5pm

Annual Fleet Service Miles: 211,287

Annual Fleet Service Hours: 15,129

Number of Employees: 7

Drivers: ___ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 385 Peak: ___

Annual Ridership: 108,081

Person-Trips/1000 Residents: 21.4

Person-Trips/Square Mile: 51.3

Person-Trips/Square Mile/Hour: 4.3

Trip Length: 2.8

Access

User: Phone-in to direct lines from bus stops & stores

Pick-up Points: House

Access Time: Immed., Advance reserv., subscription

Vehicles

#	Type	Capacity
5	van	12
2	van	8
—	—	—

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: 15 min.

Actual Wait Time (immediate request): 15 min.

Pick-Up Deviation (advanced request): 45 min.

Transfer Time: 10 min.

Productivity

Passengers/Vehicle-Hour: 7.1

Passengers/Vehicle-Mile: .51

Economics

Cost/Passenger Trip: $ 1.03

Revenue/Passenger Trip: $ .35

Cost/Vehicle-Hour: $ 7.38

Drivers' Salary: $3.53/hour 26% fringe benefits

System Contact: David Warber, Asst Mgr.
Tri-Cities Dial-A-Ride
20 N. Fifth St.
Grand Haven, Mich. 49417

References Used: system documentation supplied by Tri-Cities Dial-A-Ride and state of Michigan DART program. Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Harper Woods, Michigan

Organization: Sponsor: SEMTA (So.E. Mich. Trans. Auth.)
Operator: City of Harper Woods

System No. 32

Project History:

Institutional Issues:

Area Description

Population: 18,600

Service Area Pop. 18,600

Target Group Pop.

Service Area Size: 2.6 sq. mi.

Number of Zones:

Pop. Density of Service Area: 7154 /sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢

Special 25¢ children students

Vehicles in Service: 2

Peak: Off-Peak:

Hours of Service: mon-Fri 9am-5pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 3

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 150 est. Peak:

Annual Ridership: 36,000 est.

Person-Trips/1000 Residents: 8.1

Person-Trips/Square Mile: 57.7

Person-Trips/Square Mile/Hour: 7.2

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
2		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .32

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Michael Dewey
Small Bus Mgr., SEMTA
211 W. Fort St.
Detroit, Michigan
48226

References Used: System documentation supplied by: SEMTA
Data year: 1977

System Name:

Location: Hillsdale, Michigan

Organization:

Operator: City of Hillsdale

Project History:

Institutional Issues:

System No. 33

Area Description

Population: 7,728

Service Area Pop. 7,728

Target Group Pop.

Service Area Size: 4.3 sq.mi.

Number of Zones:

Pop. Density of Service Area: 1797/sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/ off-peak

Fares: Regular 50¢

Special 25¢ seniors, children

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service: Mon - Thurs 6:30am - 6:30pm
Fri 6:30am - 9:30pm
Sat. 8 am - 6 pm

Annual Fleet Service Miles: 79,943

Annual Fleet Service Hours: 7,480

Number of Employees: 6

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 192 Peak:

Annual Ridership: 55,121

Person-Trips/1000 Residents: 24.8

Person-Trips/Square Mile: 44.7

Person-Trips/Square Mile/Hour: 3.7

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
4		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.4

Passengers/Vehicle-Mile: .69

Economics

Cost/Passenger Trip: $ 1.32

Revenue/Passenger Trip: $ .31

Cost/Vehicle-Hour: 9.77

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program.
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: Houghton County Public Transit

System No. 34

Location: Houghton County, Michigan

Organization: Sponsor: Co. Board of Commissioners; Authority: Co. Public Trans. Commission; Planner: West. Upper Penin. Plan. & Dev. Region; Operator: Houghton County Public Transit

Project History: City of Houghton began service in 1974; in Nov. '77 Houghton County began operation in cities of Houghton and Hancock; in March 1978 began as county-wide system (county phase a state demon.)

Institutional Issues: minor problem with permits/licensing

Area Description

Population: 34,652

Service Area Pop. 34,652

Target Group Pop. ____

Service Area Size: 1019 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 34/sq. mi

Service Area Type: entire city and county

Eligible Ridership: ALL

Integrated with Fixed-Route System: ____

Supply

Service Type: MtoM: peak/off peak

Fares: Regular 50¢ - $1.50

Special 25¢ E&H, children

Vehicles in Service: 8

Peak: ____ Off-Peak: ____

Hours of Service: Mon. - Fri. 6am - 6pm; Sat. 8am - 6pm

Annual Fleet Service Miles: ____

Annual Fleet Service Hours: ____

Number of Employees: 9

Drivers: 4 Control Room: 3

Maintenance: 1

Demand

Weekday Ridership: 180 Peak: ____

Annual Ridership: not available

Person-Trips/1000 Residents: 5.2

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .02

Trip Length: ____

Access

User: Phone, hail, fixed stops

Pick-up Points: House, hail, designated points

Access Time: Immed. service, Advance reserv. (½ hr.)

Vehicles

#	Type	Capacity
___	van	8
___	small bus	17
___	large bus	12

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications: telephone, 2-way radio

Control Center: ____

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 30 min. Promised Wait Time: 22.5 min.

Actual Wait Time (immediate request): 15 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: ____

Passengers/Vehicle-Mile: ____

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: ____

Drivers' Salary: $3.50/hour 15% fringe benefits

System Contact: Alaysius Britz
Houghton Co. Public Transit
P.O. Box 88
Hancock, Michigan 49930

References Used: system documentation supplied by Houghton Co. Public Transit.
Data Year: 2 months 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Isabella County, Michigan

Organization: Authority: City & County Transp. Commission
Operator: (manager hired by Commission)

Project History: Mid-1977 Mt. Pleasant DAR merged with Isabella County DAR.

Institutional Issues:

System No. 35

Area Description

Population: 44,594
Service Area Pop. 44,594
Target Group Pop.
Service Area Size: 572 sq.mi.
Number of Zones:
Pop. Density of Service Area: 78/sq. mi
Service Area Type: entire county
Eligible Ridership: All
Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50-1.00
Special 25-50¢ seniors 0,25,50¢ children

Vehicles in Service: 11
Peak: 10 Off-Peak:

Hours of Service: Mon-Fri 7am-5:30 pm

Annual Fleet Service Miles: 323,936
Annual Fleet Service Hours: 21,351
Number of Employees: 2.5
Drivers: ____ Control Room: ____
Maintenance: ____

Demand

Weekday Ridership: 331 Peak: ____
Annual Ridership: 100,204
Person-Trips/1000 Residents: 7.4
Person-Trips/Square Mile: .6
Person-Trips/Square Mile/Hour: .06
Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time:

Vehicles

#	Type	Capacity
11	small bus	

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐
Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):
Pick-Up Deviation (advanced request):
Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.7
Passengers/Vehicle-Mile: .31

Economics

Cost/Passenger Trip: $3.08
Revenue/Passenger Trip: $.50
Cost/Vehicle-Hour: $14.44
Drivers' Salary: $____/hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: system documentation supplied by State of Michigan DART Program

Data Year: 1977

System Name: Lake County Transpo

Location: Lake County, Michigan

Organization: Authority & Operator: Transportation Authority

System No. 36

Project History:

Institutional Issues: severe funding problem as Lake Co. did not want to support second year of system operation (1/3 of operating cost).

Area Description

Population: 2,647

Service Area Pop. 2,647

Target Group Pop.

Service Area Size: 120.3 sq.mi.

Number of Zones:

Pop. Density of Service Area: 22 /sq. mi

Service Area Type: rural co.

Eligible Ridership: ALL + parcels

Integrated with Fixed-Route System: no

Supply

Service Type: M to O, M to F, Dev. from route & checkpoint: Peak M to M: off peak

Fares: Regular $1 —

Special 50¢ E & H, students

Vehicles in Service: 3

Peak: 3 Off-Peak: 2

Hours of Service: mon.-Fri. 6:30am-6pm sat. — 9am - 5:30pm

Annual Fleet Service Miles: 105,180

Annual Fleet Service Hours. 6,663

Number of Employees: 9

Drivers: 5 Control Room: 3

Maintenance: — surveyor 1

Demand

Weekday Ridership: 78 Peak:

Annual Ridership: 21464

Person-Trips/1000 Residents: 29.5

Person-Trips/Square Mile: .6

Person-Trips/Square Mile/Hour: .1

Trip Length:

Access

User: Phone, mail

Pick-up Points: House, mail, designated points

Access Time: Immed. service, adv. reserv., subscription

Vehicles:

#	Type	Capacity

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: telephone, 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☑

Part-time ☑ Other

Service Levels (average time)

Ride Time: Premised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 3.2

Passengers/Vehicle-Mile: .20

Economics

Cost/Passenger Trip: $2.54

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $ 8.19

Drivers' Salary: $ /hour

System Contact: Martin Brown
Transpo - DART
833 Seventh St.
Baldwin, mich.
49304

References Used: system documentation supplied by Transpo - DART and state of Michigan DART program. Data year: 1977

System Name:

Location: Ludington, Michigan

Organization:

Operator: City of Ludington

Project History:

Institutional Issues:

System No. 37

Area Description

Population: 9521

Service Area Pop. 9521

Target Group Pop.

Service Area Size: 4.3 sq.mi.

Number of Zones:

Pop. Density of Service Area 2214/sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/ off peak

Fares: Regular 50¢, 75¢
Special 25¢, 35¢ seniors 0.25¢, 35¢ children

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service: Mon - Thurs 6am-6pm Fri 6am-7pm Sat. 8am-6pm Sun 9am-1pm

Annual Fleet Service Miles: 97,489

Annual Fleet Service Hours: 8,076

Number of Employees: 6.5

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership 255 Peak:

Annual Ridership: 72,128

Person-Trips/1000 Residents: 26.8

Person-Trips/Square Mile: 59.3

Person-Trips/Square Mile/Hour: 4.9

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
5		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 8.9

Passengers/Vehicle-Mile: .74

Economics

Cost/Passenger Trip: $ 1.21

Revenue/Passenger Trip: $ .37

Cost/Vehicle-Hour: $ 10.78

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by state of Michigan DART Program. Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Manistee County, Michigan

Organization:

Operator: Manistee Co. Council on Aging

System No. 38

Project History:

Institutional Issues:

Area Description

Population: 18,404

Service Area Pop. 18,404

Target Group Pop.

Service Area Size: 408 sq.mi.

Number of Zones:

Pop. Density of Service Area 45 /sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type:

Fares: Regular 50¢

Special 25¢ seniors children

Vehicles in Service: 6

Peak: Off-Peak:

Hours of Service: Mon-Thurs 6:30am-6:30pm
Fri. 6:30am-6 pm
Sat. 8 am-6 pm

Annual Fleet Service Miles: 165,417

Annual Fleet Service Hours: 9,684

Number of Employees: 7

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 219 Peak:

Annual Ridership: 62,431

Person-Trips/1000 Residents: 11.9

Person-Trips/Square Mile: .5

Person-Trips/Square Mile/Hour: .04

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
6		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.4

Passengers/Vehicle-Mile: .38

Economics

Cost/Passenger Trip: $1.44

Revenue/Passenger Trip: $.36

Cost/Vehicle-Hour: $9.27

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program.
Data year: 1977

System Name:

Location: Marshall, Michigan

Organization: Authority, Planner and Operator: City of Marshall

Project History:

Institutional Issues: minor problem with labor work rules

System No. 39

Area Description

Population: 7253

Service Area Pop. 7253

Target Group Pop.

Service Area Size: 4.6 sq.mi.

Number of Zones: 2

Pop. Density of Service Area: 1577/sq. mi

Service Area Type: entire city plus part of suburban area

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: m to O: peak
m to M: off peak

Fares: Regular 50¢ - 75¢

Special 25¢ - 35¢ Elderly, children

Vehicles in Service: 3

Peak: 3 Off-Peak: 2

Hours of Service: mon.-Fri. 6am-6pm
sat. - 8am-6pm

Annual Fleet Service Miles: 82,911

Annual Fleet Service Hours: 5,490

Number of Employees: 7

Drivers: 6 Control Room: 1

Maintenance:

Demand

Weekday Ridership: 154 Peak: 110

Annual Ridership: 43,610

Person-Trips/1000 Residents: 21.2

Person-Trips/Square Mile: 33.5

Person-Trips/Square Mile/Hour: 2.8

Trip Length: .5 miles

Access

User: Phone, mail

Pick-up Points: house, mail, designated points

Access Time: Immed. service, adv. reserv., subscription

Vehicles

#	Type	Capacity
2	small bus	12
1	small bus	6

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: 15 min.

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: 10 min.

Productivity

Passengers/Vehicle-Hour: 7.9

Passengers/Vehicle-Mile: .53

Economics

Cost/Passenger Trip: $1.78

Revenue/Passenger Trip: $.34

Cost/Vehicle-Hour: $14.15

Drivers' Salary: $3.15/hour 23% fringe benefits

System Contact: Beth Morse
DART - Marshall
323 W. Michigan Ave.
Marshall, Mich.
49068

References Used: system documentation supplied by DART - Marshall
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Midland, Michigan

Organization:

Sponsor & Operator: City of Midland

Project History: Co-ordinated transfer with County of Midland Dial-A-Ride

Institutional Issues:

System No. 40

Area Description

Population: 35,176

Service Area Pop. 35,176

Target Group Pop.

Service Area Size: 24.9 sq. mi.

Number of Zones:

Pop. Density of Service Area 1413/sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: M to M: Peak/ off peak

Fares: Regular 50¢

Special 25¢ seniors & 25¢, 50¢ children

Vehicles in Service: 13

Peak: Off-Peak:

Hours of Service: Mon.-Fri 6:15am-11pm
Sat. 8am-6pm
Sun. 9am-5pm

Annual Fleet Service Miles: 357098

Annual Fleet Service Hours: 22,984

Number of Employees: 19.5

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 480 Peak:

Annual Ridership: 134,648

Person-Trips/1000 Residents: 13.6

Person-Trips/Square Mile: 19.3

Person-Trips/Square Mile/Hour: 1.2

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
13		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.9

Passengers/Vehicle-Mile: .38

Economics

Cost/Passenger Trip: $ 2.27

Revenue/Passenger Trip: $ .36

Cost/Vehicle-Hour: $ 13.32

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program. Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE (state demonstration)

Location: MIDLAND COUNTY, MICHIGAN

Organization: Sponsor: Midland County
Operator: (private co.) RCM Transit

System No. 41

Project History: Co-ordinated transfer with City of Midland Dial-A-Ride. Five dial-a-ride vehicles operate in four zones & 1 fixed route bus interfaces with zones providing connector service between zones.

Institutional Issues:

Area Description

Population: 32,000

Service Area Pop. 32,000

Target Group Pop.

Service Area Size: 492 sq.mi.

Number of Zones: 4

Pop. Density of Service Area: 65/sq. mi

Service Area Type: rural county

Eligible Ridership: All

Integrated with Fixed-Route System: • local fixed route bus • D-A-R in other zones

Supply

Service Type: m to O; between zones
m to m: peak/off peak within zones

Fares: Regular 50¢

Special 25¢ E & H, children

Vehicles in Service: 5 dial-a-ride

Peak: _____ Off-Peak: _____

Hours of Service: mon.-Fri. 7am-6pm
Sat. 8am-6pm

Annual Fleet Service Miles: 428,469

Annual Fleet Service Hours: 15,234

Number of Employees:

Drivers: ____ Control Room: ___

Maintenance: ____

Demand

Weekday Ridership: 127 est. Peak: ___

Annual Ridership: 35,616 est.

Person-Trips/1000 Residents: 3.9

Person-Trips/Square Mile: .3

Person-Trips/Square Mile/Hour: .02

Trip Length:

Access

User: Phone, fixed stops

Pick-up Points: House, designated points

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
5		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: _____ Promised Wait Time: _____

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.2

Passengers/Vehicle-Mile: .08

Economics

Cost/Passenger Trip: $ 2.60

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $ 5.62

Drivers' Salary: $_____/hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: system documentation from: state of michigan DART Program; Transp. Improvement Program (TIP)
Data Year: 1977 (9 mos. operating experience - figures annualized)

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Mt. Clemens, Michigan

Organization: Sponsor: SEMTA (So. E. Mich. Trans. Auth.)
Operator: City of Mt. Clemens

System No. 42

Project History:

Institutional Issues:

Area Description

Population: 20,300

Service Area Pop. 20,300

Target Group Pop.

Service Area Size: 4 sq.mi.

Number of Zones:

Pop. Density of Service Area 5075/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢
Special 25¢ seniors children

Vehicles in Service: 6

Peak: Off-Peak:

Hours of Service: Mon-Fri 7am-6pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 6

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 307 Peak:

Annual Ridership: 75,600

Person-Trips/1000 Residents: 15.1

Person-Trips/Square Mile: 76.8

Person-Trips/Square Mile/Hour: 7.0

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
6		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .36

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Michael Dewey
Small Bus Mgr., SEMTA
211 W. Fort St.
Detroit, Michigan
48226

References Used: System documentation supplied by: SEMTA
Data year: 1977

System Name: (discontinued)

Location: Roscoman County, Michigan

Organization: Operator: County

Project History:

Institutional Issues:

System No. 43

Area Description

Population: 9,892

Service Area Pop. 9,892

Target Group Pop.

Service Area Size: 521 sq.mi.

Number of Zones:

Pop. Density of Service Area: 19 /sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢, 75¢, $1.00

Special 25¢, 35¢, 50¢ seniors

Vehicles in Service: 3

Peak: Off-Peak:

Hours of Service: mon-Fri 6 am - 6 pm

Annual Fleet Service Miles: 169,404 est.

Annual Fleet Service Hours: 8568 est.

Number of Employees: 6

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 63 Peak:

Annual Ridership: 16080 est.

Person-Trips/1000 Residents: 6.4

Person-Trips/Square Mile: .12

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time:

Vehicles

#	Type	Capacity
3		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 1.9

Passengers/Vehicle-Mile: .10

Economics

Cost/Passenger Trip: $2.74

Revenue/Passenger Trip: $.48

Cost/Vehicle-Hour: $5.14

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation from: State of Michigan DART Program.
Data year: 5-75 to 5-76

System Name:

Location: Sault Ste. Marie, Michigan

Organization:

Operator: Community Action Agency

Project History:

Institutional Issues:

System No. 44

Area Description

Population: 15,136

Service Area Pop. 15,136

Target Group Pop.

Service Area Size: 15.7 sq. mi.

Number of Zones:

Pop. Density of Service Area: 964/sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/ off peak

Fares: Regular 50¢

Special 25¢ seniors

Vehicles in Service: 9

Peak: Off-Peak:

Hours of Service: Mon.-Thurs. 7:30am-10pm Fri 7:30am-11pm Sat.-Sun 8am-6pm

Annual Fleet Service Miles: 188,600

Annual Fleet Service Hours: 15,429

Number of Employees: 12

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 343 Peak:

Annual Ridership: 78,310

Person-Trips/1000 Residents: 22.7

Person-Trips/Square Mile: 21.8

Person-Trips/Square Mile/Hour: 1.5

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
9		

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.1

Passengers/Vehicle-Mile: .42

Economics

Cost/Passenger Trip: $ 1.66

Revenue/Passenger Trip: $ .32

Cost/Vehicle-Hour: $ 8.41

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program.

Data Year: 1977

System Name: Trenton Dial-A-Ride

Location: Trenton, Michigan

Organization: Sponsor: SEMTA (So. E. Mich. Trans. Auth.)
Operator: City of Trenton

Project History:

Institutional Issues:

System No. 45

Area Description

Population: 24,400

Service Area Pop. 24,400

Target Group Pop.

Service Area Size: 7.4 sq.mi.

Number of Zones:

Pop. Density of Service Area 3297/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 60¢
Special 30¢ E & H children/students

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service:

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 14

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 230 Peak:

Annual Ridership:

Person-Trips/1000 Residents: 9.4

Person-Trips/Square Mile: 31.1

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Michael Dewey
Small Bus Mgr., SEMTA
211 W. Fort St.
Detroit, Michigan
48226

References Used: System documentation supplied by SEMTA
Data year: 1977

System Name: Dial-A-Ride (discontinued demonstration) System No. 46

Location: Haddonfield, New Jersey

Organization: Sponsor & operator: New Jersey DOT
Planners: LEX & DAVE Systems; Mitre; Wilbur Smith & Assoc.

Project History:

Institutional Issues:

Area Description

Population: 40,100

Service Area Pop. 40,100

Target Group Pop.

Service Area Size: 10.9 sq.

Number of Zones: 6

Pop. Density of Service Area 3679/sq. mi

Service Area Type: 4 suburban cities

Eligible Ridership: All

Integrated with Fixed-Route System: • rail • fixed route shuttle

Supply

Service Type: mtom: peak/ mtoo: off-peak
Deviation from route:

Fares: Regular 30¢

Special 15¢ seniors

Vehicles in Service: 14

Peak: Off-Peak:

Hours of Service: 7 days/week, 24 hrs.

Annual Fleet Service Miles: 840,755 est.

Annual Fleet Service Hours: 63,306 est.

Number of Employees:

Drivers: 36 Control Room: 4

Maintenance: 4

Demand

Weekday Ridership: 1000 Peak:

Annual Ridership: 365,000 est.

Person-Trips/1000 Residents: 24.9

Person-Trips/Square Mile: 91.7

Person-Trips/Square Mile/Hour: 3.8

Trip Length: 3.2 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
6	small bus	10
11	small bus	17
1	small bus	11

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: computer

Computer: address location; vehicle assignment; route determination

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 12.5 min Promised Wait Time:

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.8

Passengers/Vehicle-Mile: .43

Economics

Cost/Passenger Trip: 3.45

Revenue/Passenger Trip: $ .28

Cost/Vehicle-Hour: 19.90

Drivers' Salary: $5.67/hour 35% fringe benefits

System Contact:

References Used: New Jersey DOT, Haddonfield Dial-A-Ride, Final Report, 1974.

Data Year: 1973-1974

System Name: Dial-A-Bus

Location: Batavia, New York

Organization: Authority, Planner & Operator: Rochester-Genesee RTA; Consultant: Co. Dept. of Planning

Project History: Profitable operation for two years with revenue from school bus service and charter contracts; changes in Federal law required divesting of school buses and cessation of competing for charter work with private contractors

Institutional Issues: severe problems with funding & political response (see above); minor problems with labor & community response.

System No. 47

Area Description

Population: 17,000

Service Area Pop. 17,000

Target Group Pop. ____

Service Area Size: 5.5 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 3091 /sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: no

Supply

Service Type: m to M : Peak
m to O : off peak

Fares: Regular 70¢

Special 35¢ E & H
50¢ subscription, certain hr. riders

Vehicles in Service: 4

Peak: 4 Off-Peak: 4

Hours of Service: mon. - Fri 6am - 6pm

Annual Fleet Service Miles: 104,000 est.

Annual Fleet Service Hours: 7,800 est.

Number of Employees: 8

Drivers: 6 Control Room: 2

Maintenance: 0

Demand

Weekday Ridership: 400 Peak: ____

Annual Ridership: 86,400

Person-Trips/1000 Residents: 23.5

Person-Trips/Square Mile: 72.7

Person-Trips/Square Mile/Hour: 6.1

Trip Length: ____

Access

User: Phone, fixed stops (to college only)

Pick-up Points: house, designated points

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
2	large bus	23
5	small bus	15
___	___	___

Special Features: none

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 15 min Promised Wait Time: 15 min.

Actual Wait Time (immediate request): 5 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 11.0

Passengers/Vehicle-Mile: .8

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: ____

Drivers' Salary: $4.15 /hour

System Contact: Ruth Mulcahy
Genesee Dept. of Planning
3837 Westmain St. Rd.
Batavia, New York
14020

References Used: system documentation supplied by Genesee Co. Dept. of Planning
Data year: 4-76 to 3-77

SYSTEM SUMMARY SHEETS

System Name: model Cities Dial-A-Ride

System No. 48

Location: Columbus, Ohio

Organization: Sponsor: model Cities; Authority: City of Columbus; Operator: Mid-Ohio Regional Planning Com. & Columbus Transit Co.; Consultant: Ford Motor Co.

Project History:

Institutional Issues: Competition with taxicabs - violate franchise. Constraint: required dial-a-ride base route system with deviations for door-to-door service

Area Description

Population: 539,000

Service Area Pop. 37,045

Target Group Pop.

Service Area Size: 2.5 sq. mi.

Number of Zones:

Pop. Density of Service Area 14818 per sq. mi.

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: coordinated transfer times with fixed route bus

Supply

Service Type: Deviation from route: peak/off-peak

Fares: Regular 25¢

Special 10¢ youth

Vehicles in Service: 4

Peak: 4 Off-Peak: 3

Hours of Service: mon-Fri 6:30am-6:30pm sat. 8am-5pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 15,000 approx.

Number of Employees: 10

Drivers: 3 Control Room: 5

Maintenance: 2

Demand

Weekday Ridership: 500 est. Peak:

Annual Ridership: 160,000 est.

Person-Trips/1000 Residents: 13.5

Person-Trips/Square Mile: 200

Person-Trips/Square Mile/Hour: 16.7

Trip Length:

Access

User: Phone, hail, checkpoints

Pick-up Points: house, hail, designated points

Access Time: subscription: advance reservation

Vehicles

#	Type	Capacity
4	small bus	19

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map, no computer

Computer:

Labor

Union ☒ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 18.6 min Promised Wait Time:

Actual Wait Time (immediate request): 26.8 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 10.7

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip: $1.56

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $16.64

Drivers' Salary: $8.00/hour

System Contact:

References Used: Report on the Columbus, Ohio model Cities 2nd year Transit Project, Mid-Ohio Regional Planning Comm. & Ford Motor Co., 1972. Data Year: 10-71 to 9-72.

SYSTEM SUMMARY SHEETS

System Name: Discontinued Dial-A-Ride (Urban Corridor Demonstration)

Location: Dallas, Texas

Organization: Sponsor: City of Dallas
Authority & Operator: Dallas Transit System

Project History: Project terminated after five months. Extremely low ridership; concluded that in areas of high income & higher than average auto ownership, the availability of door to door DAR is not a signif. factor in influencing transit needs.

Institutional Issues: many to many operation of serious concern to taxi operators particularly the subsidy factor (unfair competition); many to one (Park & Ride lot) not serious concern.

System No. 49

Area Description

Population: 844,401

Service Area Pop. 32,000

Target Group Pop. _____

Service Area Size: 13 sq.mi.

Number of Zones: _____

Pop. Density of Service Area 2462/sq. mi

Service Area Type: section of city: suburban

Eligible Ridership: All

Integrated with Fixed-Route System: • Park & Ride • express bus service

Supply

Service Type: m to 0: peak
m to m: off peak

Fares: Regular 50¢
Special 25¢ E & H

Vehicles in Service: 4

Peak: 4 Off-Peak: 1

Hours of Service: Mon-Fri 6 am - 8 pm

Annual Fleet Service Miles: not avail.

Annual Fleet Service Hours: not avail.

Number of Employees: _____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 26 Peak: ____

Annual Ridership: not avail.

Person-Trips/1000 Residents: .8

Person-Trips/Square Mile: 2.0

Person-Trips/Square Mile/Hour: .14

Trip Length: 9.5 miles

Access

User: Phone, fixed stops

Pick-up Points: house

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
5	small bus	19

Special Features: none

Communication/Dispatching

Mobile Communications: telephone, 2-way radio

Control Center: _____

Computer: no computer

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other _____

Service Levels (average time)

Ride Time: _____ Promised Wait Time: _____

Actual Wait Time (immediate request): _____

Pick-Up Deviation (advanced request): _____

Transfer Time: _____

Productivity

Passengers/Vehicle-Hour: _____

Passengers/Vehicle-Mile: _____

Economics

Cost/Passenger Trip: _____

Revenue/Passenger Trip: _____

Cost/Vehicle-Hour: _____

Drivers' Salary: $_____/hour

System Contact: Gary Hufstedler
Dallas Transit System
101 N. Peak
Dallas, Texas 75226

SYSTEM SUMMARY SHEETS

References Used: Dallas Transit System, City of Dallas, DIAL-A-Ride Demonstration - Urban Corridor Demonstration Program, 10-76.
Data year: 1975

System Name: Merrill-Go-Round

Location: Merrill, Wisconsin

Organization: Sponsor: Wisconsin Dept. of Transportation
Operator: Merrill Transit Commission

Project History: April 1975, service started as state demonstration project to replace expensive taxi subsidy program and an electric Dial-A-Bus for elderly & handicapped.

Institutional Issues: Project regulated by State Public Service Commission as a fixed-route system. This fact could make future changes in fare & service difficult. Funding uncertain at time of report (3/76)

System No. 50

Area Description

Population: 9,500
Service Area Pop. 9,500
Target Group Pop.
Service Area Size: 5.5 sq. mi
Number of Zones:
Pop. Density of Service Area 1727/sq. mi
Service Area Type: small city
Eligible Ridership: All
Integrated with Fixed-Route System: no

Supply

Service Type: Deviation from checkpoint: Peak/off peak
Fares: Regular 25¢ - 40¢ - 50¢
Special 15¢ students
Vehicles in Service: 2
Peak: ____ Off-Peak: ____
Hours of Service: Mon-Thurs 6:30-6pm Fri. 6:30-9:30pm Sat, Sun 8-5pm
Annual Fleet Service Miles: (220/day)
Annual Fleet Service Hours: (22/day)
Number of Employees:
Drivers: ____ Control Room: ____
Maintenance: ____

Demand

Weekday Ridership: 228 Peak: ____
Annual Ridership: 63,500 est.
Person-Trips/1000 Residents: 24.0
Person-Trips/Square Mile: 41.4
Person-Trips/Square Mile/Hour: 3.6
Trip Length: 5 miles

Access

User: Phone, fixed stops
Pick-up Points: House, designated points
Access Time: Immediate.

Vehicles

#	Type	Capacity
3	small bus	23

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio
Control Center:
Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐
Part-time ☐ Other

Service Levels (average time)
Ride Time: ____ Promised Wait Time: ____

Actual Wait Time (immediate request):
Pick-Up Deviation (advanced request):
Transfer Time:

Productivity

Passengers/Vehicle-Hour: 9.6
Passengers/Vehicle-Mile: n/a

Economics

Cost/Passenger Trip: $ .99
Revenue/Passenger Trip: $ .26
Cost/Vehicle-Hour: $9.49
Drivers' Salary: $4.00/hour
System Contact:

SYSTEM SUMMARY SHEETS

References Used: UMTA, Service and Methods Demonstrations, Small City Transit, Merrill Wisconsin, March 1976.

General Market Shared-Ride Taxi

System Name: Black & White Cab

Location: Little Rock, Arkansas

Organization: Authority & Operator: Black & White Cab

System No. 51

Project History: Service with shared-ride taxis began in 1952.

Institutional Issues: Political response and insurance have been problem areas. Have recently eliminated high city license of $75/car. Working on sales and gas tax exemption from State.

Area Description

Population: 315,000

Service Area Pop. 315,000

Target Group Pop. ____

Service Area Size: 150.8 sq.mi.

Number of Zones: 91

Pop. Density of Service Area 2089/sq. mi

Service Area Type: entire county including Little Rock & N. Little Rock

Eligible Ridership: All + parcels

Integrated with Fixed-Route System: local fixed-route bus

Supply

Service Type: M to M: peak/off peak

Fares: Regular 65¢ 1st zone, 25¢/person extra; 35¢ each zone thereafter

Special

Vehicles in Service: 75

Peak: 68 Off-Peak: 55

Hours of Service: Mon-Sun 24 hrs

Annual Fleet Service Miles: ____

Annual Fleet Service Hours: ____

Number of Employees: 165

Drivers: 140 Control Room: 20

Maintenance: 5

Demand

Weekday Ridership: 3200 Peak: ____

Annual Ridership: 1,300,000

Person-Trips/1000 Residents: 10.2

Person-Trips/Square Mile: 21.2

Person-Trips/Square Mile/Hour: .9

Trip Length: 2.2 miles

Access

User: Phone; bus, airport terminals

Pick-up Points: House, designated points

Access Time: Immed. serv., adv. reserv., subscription

Vehicles

#	Type	Capacity
75	Cab	5-7
___	___	___
___	___	___

Special Features: ____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other ____

Service Levels (average time)

Ride Time: 12 min. Promised Wait Time: none

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: ____

Passengers/Vehicle-Mile: ____

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: $ .92

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: John W. Hall
Black & White Cab
1010 Markham St.
Little Rock, Ark.
72201

References Used: System documentation supplied by Black & White Cab
Data Year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Arcadia, California

Organization: Sponsor: City of Arcadia
Operator: San Gabriel Valley Cab Co.

System No. 52

Project History:

Institutional Issues: severe problems with regulations, insurance, 13C labor contract, and funding. "Burdensome federal regulations for funding yet unreceived."

Area Description

Population: 46,400

Service Area Pop. 46,400

Target Group Pop.

Service Area Size: 11.3 sq. mi.

Number of Zones:

Pop. Density of Service Area 4106/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 75¢

Special 50¢ E & H

Vehicles in Service: 3

Peak: Off-Peak:

Hours of Service: mon-sun 7am-7pm

Annual Fleet Service Miles: 163,991

Annual Fleet Service Hours: 9,370

Number of Employees: 5

Drivers: 3 Control Room: 2

Maintenance:

Demand

Weekday Ridership: 145 Peak:

Annual Ridership: 53025

Person-Trips/1000 Residents: 3.1

Person-Trips/Square Mile: 10.9

Person-Trips/Square Mile/Hour: .9

Trip Length: 2.5 miles

Access

User: Phone

Pick-up Points: House

Access Time: Immed. service

Vehicles

#	Type	Capacity
3	cab	5

Special Features: no lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: map and pins

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: 12.1 min Promised Wait Time:

Actual Wait Time (immediate request): 16.8 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.7

Passengers/Vehicle-Mile: .32

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .67

Cost/Vehicle-Hour:

Drivers' Salary: $3.25/hour

System Contact: Jay Corey
City of Arcadia
240 W. Huntington Dr.
Arcadia, Calif. 91006

References Used: System documentation from: So. Calif. Assn of Govts (SCAG) statistics and City of Arcadia
Data year: 7-75 to 6-76

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Barstow, California

Organization: Sponsor: City of Barstow
Operator: Yellow Cab of Barstow

System No. 53

Project History:

Institutional Issues: no problems

Area Description

Population: 18,600

Service Area Pop. 18,600

Target Group Pop.

Service Area Size: 21.9 sq.mi.

Number of Zones:

Pop. Density of Service Area 849/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: none

Supply

Service Type: M to M: peak/off peak

Fares: Regular 75¢
Special 25¢ E & H

Vehicles in Service: 4

Peak: 3-4 Off-Peak: 2

Hours of Service: Mon-Fri 7am-6pm
Sat. 10am-6pm
Sun. 9am-2pm

Annual Fleet Service Miles: 91,165

Annual Fleet Service Hours: 6,174

Number of Employees:

Drivers: 2.5 Control Room:

Maintenance:

Demand

Weekday Ridership: 136 est. Peak:

Annual Ridership: 45,290

Person-Trips/1000 Residents: 7.3

Person-Trips/Square Mile: 6.2

Person-Trips/Square Mile/Hour: .6

Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time: Immed. service

Vehicles

#	Type	Capacity
4	cab	7

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☒ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 9.3 min. Promised Wait Time:

Actual Wait Time (immediate request): 16 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.3

Passengers/Vehicle-Mile: .50

Economics

Cost/Passenger Trip: $2.00

Revenue/Passenger Trip: .37

Cost/Vehicle-Hour: $14.65

Drivers' Salary: $3.50/hour

System Contact: Clifton W. Lesley
City of Barstow
220 E. Mt. View Ave.
Barstow, Calif. 92311

References Used: system documentation from: So. Calif. Ass'n of Gov'ts (SCAG) statistics and City of Barstow Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: (discontinued)

Location: Bellflower, California

Organization: Sponsor: City of Bellflower
Operator: Southeast Taxi Co.

Project History: Began operation in June 1975; discontinued June 1976.

Institutional Issues:

System No. 54

Area Description

Population: 51,700

Service Area Pop. 51,700

Target Group Pop.

Service Area Size: 6.1 sq.mi

Number of Zones:

Pop. Density of Service Area 8475 sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/ off peak

Fares: Regular 25¢

Special

Vehicles in Service: 1

Peak: Off-Peak:

Hours of Service: Mon-Fri 9am-5pm Sun - 5 hours

Annual Fleet Service Miles:

Annual Fleet Service Hours: 2,064

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 63 Peak:

Annual Ridership: 16,172 est.

Person-Trips/1000 Residents: 1.2

Person-Trips/Square Mile: 10.3

Person-Trips/Square Mile/Hour: 1.3

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
1	van	10

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request) 26.6 mn.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.8

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from: So. Calif. Assn of Gov'ts (SCAG) statistics
Data year: 1975

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Ride

System No. 55

Location: Beverly-Fairfax (Los Angeles), California

Organization: Sponsor: City of Los Angeles
Operator: Yellow Cab Co.

Project History: Discontinued at the end of 1976. To restart in May 1978 with Golden State Transit as operator.

Institutional Issues: severe insurance problem: Yellow Cab unable to obtain insurance coverage

Area Description

Population: 2,800,000

Service Area Pop. 83,567

Target Group Pop. _____

Service Area Size: 6.2 sq.mi.

Number of Zones: _____

Pop. Density of Service Area: 13479/sq. mi

Service Area Type: section of city

Eligible Ridership: ALL

Integrated with Fixed-Route System: NO Priority to elderly

Supply

Service Type: m to m: peak/off peak

Fares: Regular 15¢

Special _____

Vehicles in Service: 6

Peak: _____ Off-Peak: _____

Hours of Service: Mon.-Fri. 7am-7pm
Sat. - 10am-6pm

Annual Fleet Service Miles: 167,928

Annual Fleet Service Hours: 14,628

Number of Employees: _____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 266 Peak: ____

Annual Ridership: 81,300

Person-Trips/1000 Residents: 3.2

Person-Trips/Square Mile: 42.9

Person-Trips/Square Mile/Hour: 3.6

Trip Length: 2.1 miles

Access

User: Phone

Pick-up Points: House

Access Time: Immed. service adv. reserv. (24 hrs), subscription, group (48 hrs)

Vehicles

#	Type	Capacity
6	cab	5

Special Features: _____

Communication/Dispatching

Mobile Communications: _____

Control Center: _____

Computer: _____

Labor

Uninn ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other _____

Service Levels (average time)

Ride Time: 10 min. Promised Wait Time: _____

Actual Wait Time (immediate request): 24 min.

Pick-Up Deviation (advanced request): _____

Transfer Time: _____

Productivity

Passengers/Vehicle-Hour: 5.6

Passengers/Vehicle-Mile: .48

Economics

Cost/Passenger Trip: $ 1.79

Revenue/Passenger Trip: _____

Cost/Vehicle-Hour: $ 9.95

Drivers' Salary: $_____/hour

System Contact: _____

References Used: system documentation from L.A. Dept. of Public Util. & Transp., Analysis of Dial-A-Ride Service in the City of Los Angeles, Nov. 1976; and So. Calif. Assoc. of Govts (SCAG) Statistics. Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Claremont, California

Organization: Sponsor: City of Claremont
Operator: Paul's Yellow Cab

Project History: Service began in Oct. 1974; in Sept. 1976 increased fare from 35¢ to 50¢ with result of ridership decrease of 3.3%. July 1977 introduced fixed route shuttle service for seniors; rapid decrease in demand so Sept. 1977 return to regular DAR.

Institutional Issues: no problems

System No. 56

Area Description

Population: 24,950

Service Area Pop. 24,950

Target Group Pop.

Service Area Size: 18 sq. mi.

Number of Zones:

Pop. Density of Service Area 386/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: local fixed-route bus

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢
Special $1.50: weekends & after hours

Vehicles in Service: 2

Peak: 2 Off-Peak: 1

Hours of Service: Mon-Fri 8am-5:30pm other hours and weekends avail. at special fee

Annual Fleet Service Miles: 26,100

Annual Fleet Service Hours: 2,534

Number of Employees:

Drivers: 2+ Control Room: 2

Maintenance:

Demand

Weekday Ridership: 76 Peak:

Annual Ridership: 19,404

Person-Trips/1000 Residents: 3.0

Person-Trips/Square Mile: 4.2

Person-Trips/Square Mile/Hour: .4

Trip Length: 1.4 miles

Access

User: Phone, hail

Pick-up Points: House, hail

Access Time: Immed. service

Vehicles

#	Type	Capacity
2	cab	5

Special Features: no lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer: no computer

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 10 min. Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 5 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.7

Passengers/Vehicle-Mile: .74

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .50

Cost/Vehicle-Hour:

Drivers' Salary: $3.00/hour

System Contact: Paul Beteman
City of Claremont
207 Harvard Ave.
Claremont, Calif.
91711

References Used: System documentation from city of Claremont and So. Calif. Ass'n of Gov'ts Statistics.
Data year: 1976

SYSTEM SUMMARY SHEETS

System Name:

Location: Colton, California

Organization: Sponsor: City of Colton
Operator: San Bernardino Yellow Cab

Project History:

Institutional Issues:

System No. 57

Area Description

Population: 18,270

Service Area Pop. 18,270

Target Group Pop.

Service Area Size: 4 sq.mi.

Number of Zones:

Pop. Density of Service Area: 4568/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 3

Peak: Off-Peak:

Hours of Service: Mon-Fri 8am-7pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 3,770

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 42 Peak:

Annual Ridership: 10,800 est.

Person-Trips/1000 Residents: 2.3

Person-Trips/Square Mile: 10.5

Person-Trips/Square Mile/Hour: 1.0

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
3	Cab	5

Special Features: no lifts

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.9

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: System documentation from: So. Calif. Ass'n of Govts (SCAG) Statistics
Data year: 75-76

System Name: El Cajon Express

Location: El Cajon, California

Organization: Sponsor: City of El Cajon
Operator: San Diego Yellow Cab Inc.

Project History: 1973 City had local bus service under contract with San Diego Transit Corp. Low utilization led to "experimental" project with Yellow Cab.

Institutional Issues:

System No. 60

Area Description

Population: 60,500

Service Area Pop. 60,500

Target Group Pop.

Service Area Size: 12 sq.mi.

Number of Zones:

Pop. Density of Service Area 5042 sq. mi

Service Area Type: suburban area

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 14

Peak: Off-Peak:

Hours of Service: mon-Sun 24 hrs.

Annual Fleet Service Miles: 792,000 est.

Annual Fleet Service Hours: 44,400 est.

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 550 Peak:

Annual Ridership: 176,818

Person-Trips/1000 Residents: 9.1

Person-Trips/Square Mile: 45.8

Person-Trips/Square Mile/Hour:

Trip Length: 3.4 miles

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
18	cab	5

Special Features: no lifts

Communication/Dispatching

Mobile Communications: two-way radio

Control Center:

Computer:

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.0

Passengers/Vehicle-Mile: .22

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $.38

Cost/Vehicle-Hour: 9.70

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from reports: DOT/UMTA, Small City Transit; El Cajon, California: City-wide Shared-Ride Taxi Service, March 1976; Wilbur Smith & Assoc., Dial-A-Ride Guidelines, San Diego Region, Dec. 1976.

Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: Fullerton Dial-A-Ride

Location: Fullerton, California

Organization: Authority & Planner: Orange Co. Transit District
Operator: Yellow Cab of No. Orange Co.

System No. 58

Project History:

Institutional Issues: none

Area Description

Population: 94,000

Service Area Pop. 94,000

Target Group Pop.

Service Area Size: 22 sq.mi.

Number of Zones: —

Pop. Density of Service Area: 4273/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System:
- Local fixed-route bus
- DAR in other zones
- Park & Ride service

Supply

Service Type: M to M: Peak/Off Peak

Fares: Regular 50¢

Special 25¢ E&H

Vehicles in Service: 11

Peak: 11 Off-Peak: 8

Hours of Service: Mon. – Fri. 6am-7pm
Sat. 6am-7pm

Annual Fleet Service Miles: 460,000

Annual Fleet Service Hours: 28,000

Number of Employees:

Drivers: ____ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 400 Peak: 200

Annual Ridership: 138,000

Person-Trips/1000 Residents: 4.3

Person-Trips/Square Mile: 18.2

Person-Trips/Square Mile/Hour: 1.4

Trip Length: N/A

Access

User: Phone

Pick-up Points: House

Access Time: Immed., Subscription

Vehicles

#	Type	Capacity
5	small bus	19
7	Cab	7

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 17.5 min. Promised Wait Time: 25 min.

Actual Wait Time (immediate request): 25 min.

Pick-Up Deviation (advanced request): N/A

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 4.9

Passengers/Vehicle-Mile: .30

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .37

Cost/Vehicle-Hour:

Drivers' Salary: $_____/hour

System Contact: Sharon Neely
Orange Co. Transit District
1200 N. main St.
Santa Ana, California
92702

SYSTEM SUMMARY SHEETS

References Used: System documentation supplied by Orange Co. Transit District
Data year: FY 78

System Name: DIAL-A-RIDE

Location: La Mesa, California

Organization: Sponsor: City of La Mesa
Operator: San Diego Yellow Cab

System No. 59

Project History: In 1974 City reached agreement with San Diego Transit Corp. to terminate local bus operations (2 shuttles, $100,000/year & 200 riders/week). Then city qualified itself as "operator" to become eligible for LTF (local trans. funds) and purchased 6 sedans. Contract with cab co. to operate.

Institutional Issues: Insurance problem: service discontinued for one month (12-76) because of cab insurance prob.; reinstated under new ownership.

Area Description

Population: 45,000

Service Area Pop. 45,000

Target Group Pop.

Service Area Size: 7 sq. mi.

Number of Zones:

Pop. Density of Service Area 6429/sq. mi.

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: no

Supply

Service Type: mtom: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 6

Peak: 6 Off-Peak: 6

Hours of Service: Mon-Fri 7am-9pm
Sat 8am-6pm
Sun 7:30am-1:00

Annual Fleet Service Miles: 270,000

Annual Fleet Service Hours: 16,500

Number of Employees:

Drivers: ___ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 375 Peak: ___

Annual Ridership: 110,000 est.

Person-Trips/1000 Residents: 8.3

Person-Trips/Square Mile: 53.4

Person-Trips/Square Mile/Hour: 3.8

Trip Length: 3.6 miles

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
6	cab	5

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.7

Passengers/Vehicle-Mile: .41

Economics

Cost/Passenger Trip: $ 1.46

Revenue/Passenger Trip: $ .46

Cost/Vehicle-Hour:

Drivers' Salary: $3.80/hour 24% fringe benefits

System Contact:

SYSTEM SUMMARY SHEETS

References Used: System documentation from reports: Wilbur Smith & Assoc., Dial-A-Ride Guidelines, Dec. 1976; California DOT, Transguide, p 2.49. Data year: 1976

System Name: DIAL-A-RIDE

Location: Monrovia, California

Organization: Sponsor: City of Monrovia
Operator: San Gabriel Valley Cab Co.

System No. 61

Project History:

Institutional Issues:

Area Description

Population: 29,000

Service Area Pop. 29,000

Target Group Pop.

Service Area Size: 13.7 sq.mi.

Number of Zones:

Pop. Density of Service Area 2117/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 75¢

Special

Vehicles in Service: 1+

Peak: Off-Peak:

Hours of Service: mon-Fri 9am-4pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 2,240

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 41 Peak:

Annual Ridership: 10,432 est.

Person-Trips/1000 Residents: 1.4

Person-Trips/Square Mile: 2.9

Person-Trips/Square Mile/Hour: .4

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
1	cab	5

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.7

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $3.25/hour

System Contact:

References Used: System documentation from: So. Calif. Ass'n of Govts (SCAG) statistics and Calif. DOT, Transguide, SOA 2.62. Data Year: 1976

SYSTEM SUMMARY SHEETS

System Name:

Location: Ontario - Upland, California

System No. 62

Organization: Sponsor: SANBAG; Authority & Planner: West Valley Transit Service; Operator: Paul's Yellow Cab

Project History: Ontario and Uplands systems are co-ordinated by same provider with transfer service available at city limits

Institutional Issues: "Funding & legal regulations are problems because of the complex nature of funding sources & UMTA restrictions. Also because of lag time to receive funding." (FY77 applied for UMTA sec. 3 & 5 money)

Area Description

Population: 102,800

Service Area Pop. 102,800

Target Group Pop.

Service Area Size: 32 sq. mi

Number of Zones: 2

Pop. Density of Service Area 3212 sq. mi

Service Area Type: suburban area

Eligible Ridership: All

Integrated with Fixed-Route System: · local fixed-route bus · intercity bus

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢

Special 25¢ E & H

Vehicles in Service: 7

Peak: Off-Peak:

Hours of Service: Mon-Fri 9:15am-4:45pm

Annual Fleet Service Miles: 171,060

Annual Fleet Service Hours: 14832

Number of Employees: (contract with cab co.)

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 263 Peak:

Annual Ridership: 78,142

Person-Trips/1000 Residents: 2.6

Person-Trips/Square Mile: 8.2

Person-Trips/Square Mile/Hour: 1.0

Trip Length: 1.5 miles

Access

User: Phone

Pick-up Points: House, anywhere within city

Access Time: Immed. service; advance reservation

Vehicles

#	Type	Capacity
2	cab	5
4	cab	8
1	cab	

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 8 min Promised Wait Time:

Actual Wait Time (immediate request): 15.1 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.5

Passengers/Vehicle-Mile: .39

Economics

Cost/Passenger Trip: $1.70

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $8.97

Drivers' Salary: $3.00/hour

System Contact: Michael O'Connor
City of Ontario
City Hall
Ontario, California
91761

References Used: Sustran documentation from: So. Calif. Assn of Govts (SCAG) statistics, City of Ontario, and Calif. DOT, Transguide, SOA 2.69 Data Year: 1977

SYSTEM SUMMARY SHEETS

System Name: Orange-Villa Park Dial-A-Ride

Location: Orange, California

Organization: Authority & Planner - Orange Co. Transit District
Operator - Yellow Cab of No. Orange Co.

Project History: DAR implemented 7-75 and discontinued one year later. The District was sued by local taxi company and DAR ceased operation by court order. Subsequent court action upheld legality of DAR service which resumed 7-77

Institutional Issues: Legal problems (see above)

System No. 63

Area Description

Population: 92,500

Service Area Pop. 92,500

Target Group Pop. ____

Service Area Size: 19.6 sq.mi.

Number of Zones: 2

Pop. Density of Service Area: 4719/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System: • Local fixed route bus
• DAR in other zones
• Park & Ride Service

Supply

Service Type: M to M; Peak/Off Peak

Fares: Regular 50¢

Special 25¢ E+H

Vehicles in Service: 11

Peak: 11 Off-Peak: 8

Hours of Service: Mon.-Fri. 6-7
Sat. 6-7

Annual Fleet Service Miles: 403,700

Annual Fleet Service Hours: 26,600

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 500 Peak: 280

Annual Ridership: 157,000

Person-Trips/1000 Residents: 5.4

Person-Trips/Square Mile: 25.5

Person-Trips/Square Mile/Hour: 2.0

Trip Length: ____

Access

User: Phone

Pick-up Points: House

Access Time: Immed., Subscription

Vehicles

#	Type	Capacity
5	small bus	19
7	cabs	7

Special Features: ____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 17.5 min. Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 25 min.

Pick-Up Deviation (advanced request): N/A

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 5.9

Passengers/Vehicle-Mile: .39

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: $ .37

Cost/Vehicle-Hour: ____

Drivers' Salary: $ ____/hour

System Contact: Sharon Neely
Orange Co. Transit District
1200 N. main St.
Santa Ana, Calif. 92702

References Used: System documentation supplied by Orange Co. Transit District
Data year: FY 1978

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Ride

System No. 64

Location: Pacoima (Los Angeles), California

Organization: Sponsor: City of Los Angeles
Operator: Paratransit Ltd. - Valley Checker Cab

Project History: Discontinued at the end of 1976. To restart May 1978 with Golden State Transit as operator

Institutional Issues: funding problems: no procedure established by city to receive bids; budgeted year funds exhausted; may restart in 1978

Area Description

Population: 2,800,000

Service Area Pop. 65,650

Target Group Pop. ____

Service Area Size: 11.4 sq. mi.

Number of Zones: ____

Pop. Density of Service Area 5759/sq. mi.

Service Area Type: section of city

Eligible Ridership: All Priority to elderly

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off peak

Fares: Regular 15¢

Special ____

Vehicles in Service: 4

Peak: ____ Off-Peak: ____

Hours of Service: mon.-Fri. 7am-7pm
sat. 10am-6pm

Annual Fleet Service Miles: 134,840

Annual Fleet Service Hours: 9,574

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 121 Peak: ____

Annual Ridership: 37,224

Person-Trips/1000 Residents: 1.8

Person-Trips/Square Mile: 10.6

Person-Trips/Square Mile/Hour: .9

Trip Length: 3.7 miles

Access

User: Phone

Pick-up Points: house

Access Time: Immed. service, adv. reserv. (24 hrs), subscription

Vehicles

#	Type	Capacity
4	cab	7

Special Features: ____

Communication/Dispatching

Mobile Communications: ____

Control Center: ____

Computer: ____

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 4 min. Promised Wait Time: ____

Actual Wait Time (immediate request): 12 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 3.9

Passengers/Vehicle-Mile: .28

Economics

Cost/Passenger Trip: $2.94

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: $11.42

Drivers' Salary: $____/hour

System Contact: ____

References Used: System documentation from L.A. Dept. of Public Util. & Transp., Analysis of Dial-A-Ride Service in the City of Los Angeles, Nov. 1976; and So. Calif. Assoc. of Govts (SCAG) statistics. Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: San Bernardino, California

Organization: Sponsor: City of San Bernardino
Operator: San Bernardino Yellow Cab

System No. 65

Project History:

Institutional Issues:

Area Description

Population: 104,251

Service Area Pop. 85,000

Target Group Pop.

Service Area Size: 16 sq.mi.

Number of Zones:

Pop. Density of Service Area 5313/sq. mi

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 10

Peak: Off-Peak:

Hours of Service: Mon-Fri 7am-7pm
Sun 9am-4pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 20,328

Number of Employees: 15

Drivers: 11 Control Room: 2

Maintenance: 2

Demand

Weekday Ridership: 329 Peak:

Annual Ridership: 100,992

Person-Trips/1000 Residents: 3.9

Person-Trips/Square Mile: 20.6

Person-Trips/Square Mile/Hour: 1.7

Trip Length: 2.7 miles

Access

User: Phone

Pick-up Points: house, designated points

Access Time: Immed. Service

Vehicles

#	Type	Capacity
10	cab	7

Special Features: no lifts

Communication/Dispatching

Mobile Communications: telephone, 2-way radio

Control Center:

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time: 30 min.

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.0

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $4- /hour 23% fringe benefits

System Contact: Tom Crawford
City of San Bernardino
300 No. D Street
San Bernardino, Calif.
92418

References Used: system documentation supplied by City of San Bernardino and So. Calif. Assn of Govts (SCAG) statistics. Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE (discontinued)

Location: Victorville, California

Organization: Sponsor: City of Victorville
Operator: Victor Valley Yellow Cab

Project History: Began in Sept. 1975 and ended in March 1976.

Institutional Issues:

System No. 66

Area Description

Population: 12,650

Service Area Pop. 12,650

Target Group Pop.

Service Area Size: 15.1 sq.mi.

Number of Zones:

Pop. Density of Service Area 838/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off-peak

Fares: Regular 50¢

Special

Vehicles in Service: 1

Peak: Off-Peak:

Hours of Service: Mon-Fri. - 7am-6pm

Annual Fleet Service Miles: 35,396

Annual Fleet Service Hours: 2,772

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 31 Peak:

Annual Ridership: 7908 est.

Person-Trips/1000 Residents: 2.5

Person-Trips/Square Mile: 2.1

Person-Trips/Square Mile/Hour: .2

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
1	cab	5

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.9

Passengers/Vehicle-Mile: .22

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from: So. Calif. Assn of Govts (SCAG) statistics and Calif. DOT, Transguide, SOA 2.124. Data year: 75-76

SYSTEM SUMMARY SHEETS

System Name: BUCAT (demonstration)

System No. 67

Location: St. Bernard Parish, Louisiana.

Organization: Authority: St. Bernard Parish Police Jury; Planner: Reg'l Plan. Comm.; Operator: Arabi Cab/St. Bernard Parish Bus Co.

Project History: Demonstration of combination bus-cab feeder system.

Institutional Issues: minor regulatory problem: Federal regulation prohibits taxi & bus operations to use same frequency band. may require dispatcher to change freq. each time to talk to cabs & buses.

Area Description

Population: 57,400

Service Area Pop. 20,500

Target Group Pop. _____

Service Area Size: 4 sq.mi.

Number of Zones: _____

Pop. Density of Service Area 5125/sq. mi

Service Area Type: section of city, suburban area

Eligible Ridership: All

Integrated with Fixed-Route System: local fixed-route bus

Supply

Service Type: M to O: Peak
M to M: off-peak

Fares: Regular 50¢ joint fare - SRT & fixed route bus;
Special 25 - 50¢ transfer 1/2 fare - seniors/off peak

Vehicles in Service: 21

Peak: _____ Off-Peak: _____

Hours of Service: mon - sat 6am - 7pm

Annual Fleet Service Miles: _____

Annual Fleet Service Hours: _____

Number of Employees: _____

Drivers: ____ Control Room: 1

Maintenance: ____

Demand

Weekday Ridership: 20 Peak: ____

Annual Ridership: 5,400 est.

Person-Trips/1000 Residents: 1.0

Person-Trips/Square Mile: 5.0

Person-Trips/Square Mile/Hour: .4

Trip Length: _____

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Adv. reserv., subscription

Vehicles

#	Type	Capacity
21	cab	8

Special Features: _____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: _____

Computer: no computer

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other _____

Service Levels (average time)

Ride Time: _____ Promised Wait Time: _____

Actual Wait Time (immediate request): _____

Pick-Up Deviation (advanced request): _____

Transfer Time: _____

Productivity

Passengers/Vehicle-Hour: _____

Passengers/Vehicle-Mile: _____

Economics

Cost/Passenger Trip: _____

Revenue/Passenger Trip: _____

Cost/Vehicle-Hour: _____

Drivers' Salary: $_____/hour

System Contact: _____

References Used: System documentation from reports: Urban Institute, Some Promising Innovations in Taxicab Operations; Part IV Program Narrative received from California Dept. of Transportation. Data year: 1976.

SYSTEM SUMMARY SHEETS

System Name:

Location: Adrian, Michigan

Organization:

Operator: (taxi co.)

Project History:

Institutional Issues:

System No. 68

Area Description

Population: 23,382

Service Area Pop. 23,382

Target Group Pop.

Service Area Size: 6.2 sq.mi.

Number of Zones:

Pop. Density of Service Area 3771/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/ off peak

Fares: Regular

Special

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service:

Annual Fleet Service Miles: 170,140

Annual Fleet Service Hours: 11,856

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 197 Peak:

Annual Ridership: 103,157

Person-Trips/1000 Residents: 8.4

Person-Trips/Square Mile: 31.8

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
5		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 8.7

Passengers/Vehicle-Mile: .61

Economics

Cost/Passenger Trip: $1.05

Revenue/Passenger Trip:

Cost/Vehicle-Hour: $ 9.12

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: system documentation from: state of Michigan DART Program.

Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Alpena, Michigan

Organization:

Operator: City Cab

Project History:

Institutional Issues:

System No. 69

Area Description

Population: 19,805

Service Area Pop. 19,805

Target Group Pop.

Service Area Size: 10.4 sq.mi.

Number of Zones:

Pop. Oensity of Service Area: 1904/sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off-peak

Fares: Regular 50¢, 75¢

Special 25¢, 40¢ seniors children

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service: Mon.-Thurs. 6:30am-8:30pm Fri 6:30am-10:30pm Sat. 8am-6pm Sun. 9am-5pm

Annual Fleet Service Miles: 153,786

Annual Fleet Service Hours: 12,042

Number of Employees: 9.5

Orivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 232 Peak:

Annual Ridership: 71,226

Person-Trips/1000 Residents: 11.7

Person-Trips/Square Mile: 22.3

Person-Trips/Square Mile/Hour: 1.6

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
5		

Special Features:

Communication/Oispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Oeviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.9

Passengers/Vehicle-Mile: .46

Economics

Cost/Passenger Trip: $ 1.68

Revenue/Passenger Trip: $ .41

Cost/Vehicle-Hour: $ 9.91

Orivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART Program
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Birmingham, Michigan

Organization: Authority: SEMTA (So.E. Mich.Trans.Auth.)
Operator: Birmingham Taxi

System No. 70

Project History:

Institutional Issues:

Area Description

Population: 34,000

Service Area Pop. 34,000

Target Group Pop.

Service Area Size: 6 sq. mi

Number of Zones:

Pop. Density of Service Area 5667/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: m to m: Peak/ off peak

Fares: Regular 50¢
Special 25¢ seniors children

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service: Mon-Thurs 6:30am - 6:30pm
Fri - 6:30am - 9:30pm
Sat 10am - 6pm Sun 10am - 2pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 8436

Number of Employees: 5

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 123 est. Peak:

Annual Ridership: 38,400 est.

Person-Trips/1000 Residents: 3.6

Person-Trips/Square Mile: 20.5

Person-Trips/Square Mile/Hour: 1.7

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
4		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 4.6

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .33

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Michael Dewey
Small Bus Mgr., SEMTA
211 W. Fort St.
Detroit, Michigan
48226

References Used: system documentation from: SEMTA
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Cadillac, Michigan

Organization:

Operator: Cadillac Cab

Project History:

Institutional Issues:

System No. 71

Area Description

Population: 10,490

Service Area Pop. 10,490

Target Group Pop.

Service Area Size: 6.1 sq.mi.

Number of Zones:

Pop. Density of Service Area: 1720/sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: mtom: peak/ off peak

Fares: Regular 50¢
Special 25¢ seniors & 25¢ children

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service: Mon.-Thurs 6am-6pm
Fri 6am-9pm
Sat 8am-6pm

Annual Fleet Service Miles: 135,570

Annual Fleet Service Hours: 11,071

Number of Employees: 7

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 289 Peak:

Annual Ridership: 83,157

Person-Trips/1000 Residents: 27.6

Person-Trips/Square Mile: 47.4

Person-Trips/Square Mile/Hour: 3.9

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
4		

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 7.5

Passengers/Vehicle-Mile: .61

Economics

Cost/Passenger Trip: $ 1.34

Revenue/Passenger Trip: $ .31

Cost/Vehicle-Hour: $ 10.06

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: System documentation supplied by State of Michigan DART program.
Data year: 1977

System Name:

Location: Holland, Michigan

Organization: Operator: Warm Friend, Inc.

Project History:

Institutional Issues:

System No. 72

Area Description

Population: 27,137

Service Area Pop. 27,137

Target Group Pop.

Service Area Size: 14.2 sq.mi.

Number of Zones:

Pop. Density of Service Area 1911 /sq. mi

Service Area Type:

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: mtom: peak/ off-peak

Fares: Regular 50¢, 75¢

Special 25¢ seniors 0,50¢,75¢ children

Vehicles in Service: 6

Peak: Off-Peak:

Hours of Service: mon-Fri 6am-6pm

Annual Fleet Service Miles: 152,094

Annual Fleet Service Hours: 12,550

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 299 Peak:

Annual Ridership: 79,181

Person-Trips/1000 Residents: 11.0

Person-Trips/Square Mile: 21.1

Person-Trips/Square Mile/Hour: 1.8

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
6		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.3

Passengers/Vehicle-Mile: .52

Economics

Cost/Passenger Trip: $1.67

Revenue/Passenger Trip: $.33

Cost/Vehicle-Hour: $10.56

Drivers' Salary: $ /hour

System Contact:

Dept. of State Hwys & Transp.
P.O. Box 30050
Lansing, Michigan
48909

References Used: system documentation supplied by State of Michigan DART Program

Data year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Niles, Michigan

Organization: Sponsor: City of Niles
Planner & Operator: Waltman Enterprises Inc.

Project History: Wheelchair bus added in 1975.
Community voted ½ mill. to support operation from August 1978 through end of July 1980.

Institutional Issues: Cost for insurance has increased approximately 40-50% each year since 1975.

System No. 73

Area Description

Population: 12,988

Service Area Pop. 12,988

Target Group Pop.

Service Area Size: 5.2 sq.mi.

Number of Zones:

Pop. Density of Service Area 2498/sq. mi

Service Area Type: entire city

Eligible Ridership: ALL

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢ - 75¢

Special 25¢ - E+ children

Vehicles in Service: 6

Peak: Off-Peak:

Hours of Service: mon.-Thurs. 6am-6pm
Fri. 6am-9 pm
Sat. 8am-6 pm

Annual Fleet Service Miles: 143,979

Annual Fleet Service Hours: 13,381

Number of Employees: 14

Drivers: 11 Control Room: 1

Maintenance: 1

Demand

Weekday Ridership: 260 Peak:

Annual Ridership: 73,435

Person-Trips/1000 Residents: 20.0

Person-Trips/Square Mile: 50.0

Person-Trips/Square Mile/Hour: 4.2

Trip Length: .75 miles

Access

User: Phone, hail

Pick-up Points: House, hail, designated points.

Access Time: Advance reserv. (24 hrs) subscription

Vehicles

#	Type	Capacity
5	cab	
1	bus	

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.5

Passengers/Vehicle-Mile: .51

Economics

Cost/Passenger Trip: $1.98

Revenue/Passenger Trip: $.38

Cost/Vehicle-Hour: $10.84

Drivers' Salary: $4⁻/hour 20% fringe benefits

System Contact: William Waltman
Waltman Enterprises
301 No. Front St.
Niles, Michigan 49120

References Used: system documentation supplied by Waltman Enterprises, Inc. and state of Michigan DART program.
Data year: 1977

System Name: Redford Dial-A-Ride

Location: Redford Township, Michigan

Organization: Sponsor: SEMTA (So. E. Mich. Trans Auth.)
Operator: N.W. Transport

System No. 74

Project History:

Institutional Issues:

Area Description

Population: 66,600

Service Area Pop. 66,600

Target Group Pop.

Service Area Size: 11.2 sq.mi

Number of Zones:

Pop. Density of Service Area 5946/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off peak

Fares: Regular 60¢
Special 30¢ seniors children

Vehicles in Service: 6

Peak: Off-Peak:

Hours of Service:
Mon-Fri 6:30am - 6:30pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 4.5

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 208 Peak:

Annual Ridership: 50,400 est.

Person-Trips/1000 Residents: 3.1

Person-Trips/Square Mile: 18.6

Person-Trips/Square Mile/Hour: 1.5

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
6		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .41

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Michael Dewey
Small Bus Mgr., SEMTA
211 W. Fort St.
Detroit, Michigan
48226

References Used: System documentation supplied by: SEMTA
Data Year: 1977

SYSTEM SUMMARY SHEETS

System Name:

Location: Traverse City, Michigan

Organization: Sponsor & planner: City of Traverse City
Operator: Number 1 Cab Co.

Project History: One year after service initiation (5-74), increased fares to points beyond city limits with resulting 50% decrease in ridership outside city.

Institutional Issues: severe insurance problems: due to no-fault provisions in Mich.; unwillingness of carriers to assume risk, espec. handicapped transportation.

System No. 75

Area Description

Population: 18,048
Service Area Pop. 26,321
Target Group Pop.
Service Area Size: 17.8 sq.mi.
Number of Zones:
Pop. Density of Service Area: 1479/sq. mi
Service Area Type: entire city plus suburban area
Eligible Ridership: ALL
Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off-peak

Fares: Regular 50¢ - 1.00
Special 25¢ - 50¢ Elderly, Children

Vehicles in Service: 5
Peak: 5 Off-Peak: 2

Hours of Service: Mon.-Thurs. 6am - 6pm
Fri. - 6am - 9 pm
Sat. - 9:30am - 5 pm

Annual Fleet Service Miles: 132,000
Annual Fleet Service Hours: 14,400
Number of Employees: 8
Drivers: 7 Control Room: 1
Maintenance: .5

Demand

Weekday Ridership: 260 Peak:
Annual Ridership: 72,000
Person-Trips/1000 Residents: 9.9
Person-Trips/Square Mile: 14.6
Person-Trips/Square Mile/Hour: 1.2
Trip Length: 3

Access

User: Phone, mail

Pick-up Points: House, mail

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
6	van	12

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: manual log & vehicle assignment system

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 20 min. Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 20 min.
Pick-Up Deviation (advanced request): 50 min.
Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.0
Passengers/Vehicle-Mile: .54

Economics

Cost/Passenger Trip: 1.81
Revenue/Passenger Trip: $ .38
Cost/Vehicle-Hour: 9.03
Drivers' Salary: $3.50/hour 22% fringe benefits

System Contact: Craig Horvath
No. 1 Cab Company
721 Beitner St.
Traverse City, Mich. 49684

References Used: system documentation supplied by No. 1 Cab Company
Data year: 11-76 to 11-77

SYSTEM SUMMARY SHEETS

System Name: Orange & White Taxi

Location: Hicksville, Long Island, New York

Organization: Sponsor & Operator: Orange & White Taxi

Project History: System began operation in 1961.

Institutional Issues:

System No. 76

Area Description

Population: 48,100

Service Area Pop. 48,100

Target Group Pop.

Service Area Size: 6.8 sq. mi

Number of Zones:

Pop. Density of Service Area 7074/sq. mi

Service Area Type: entire city

Eligible Ridership: All + parcels

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/ off peak

Fares: Regular

Special

Vehicles in Service: 40

Peak: 40 Off-Peak: 20

Hours of Service: mon-sun 24 hrs

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: 90 Control Room: 10

Maintenance: 4

Demand

Weekday Ridership: 814 Peak:

Annual Ridership: 296,300 est.

Person-Trips/1000 Residents: 16.9

Person-Trips/Square Mile: 119.7

Person-Trips/Square Mile/Hour: 4.9

Trip Length:

Access

User: Phone

Pick-up Points: house, designated points (taxi stands)

Access Time: Immed. service

Vehicles

#	Type	Capacity
40	cab	5

Special Features:

Communication/Dispatching

Mobile Communications: one-way paging device

Control Center: manual dispatch, radio

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request): 9 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from report: Urban Transit Compendium, Paratransit, Vol. 11 #8, 1975. Data year: 1975

SYSTEM SUMMARY SHEETS

System Name: (demonstration)

Location: Xenia, Ohio

Organization: Authority: City of Xenia, Operator: Xenia Taxi Service (contract with city)

Project History: Demonstration began in 1974; to terminate in 1978. Evolved from fixed route bus system to mix of paratransit services: SRT, exclusive-ride taxi, subscription & charter service.

Institutional Issues:

System No. 77

Area Description

Population: 28,000

Service Area Pop. 28,000

Target Group Pop.

Service Area Size: 9 sq.mi.

Number of Zones:

Pop. Density of Service Area 3111 /sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/off-peak

Fares: Regular Range: 50¢/passgr. off-peak adv. reserv. to $1.00 for immed. service

Special

Vehicles in Service: 12

Peak: Off-Peak:

Hours of Service: 7 days/week 7am - 7pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 259 Peak:

Annual Ridership: 80,000 est.

Person-Trips/1000 Residents: 9.2

Person-Trips/Square Mile: 28.8

Person-Trips/Square Mile/Hour: 2.4

Trip Length: 3.1 miles

Access

User: Phone

Pick-up Points:

Access Time: subscription: adv. reservation, immed

Vehicles

#	Type	Capacity
7	SRT Cabs	
5	small buses for advance reservation & subscription service	

Special Features: 1 bus with lift

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 13 min Promised Wait Time:

Actual Wait Time (immediate request): 15 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 3.8

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip: 2.89

Revenue/Passenger Trip: .88 SRT

Cost/Vehicle-Hour: 11.00

Drivers' Salary: $2.80/hour

System Contact:

References Used: UMTA, Services & Methods Demonstrations Annual Report, (draft) 1977. Results: computed average: SRT 56% of all trips; subscription 29%; charter 15%.

SYSTEM SUMMARY SHEETS

System Name: Badger Cab Co.

Location: Madison, Wisconsin

Organization: Sponsor & Operator: Badger Cab Co.

Project History: Shared-taxi service initiated in 1933.

Institutional Issues:

System No. 78

Area Description

Population: 200,000

Service Area Pop. 200,000

Target Group Pop.

Service Area Size: 48.5 sq. mi.

Number of Zones: 16

Pop. Density of Service Area 4124 /sq. mi

Service Area Type: entire city

Eligible Ridership: All + package delivery

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off peak

Fares: Regular 65¢ within zone, 80¢ 1 zone to another

Special 15¢ each add'l person to same destination

Vehicles in Service: 30

Peak: _____ Off-Peak: _____

Hours of Service: mon-sun. 24 hrs.

Annual Fleet Service Miles: _____

Annual Fleet Service Hours: _____

Number of Employees: _____

Drivers: 65 Control Room: 6

Maintenance: 2 Admin. 3

Demand

Weekday Ridership 2466 Peak: ___

Annual Ridership: 641,000 est.

Person-Trips/1000 Residents: 12.3

Person-Trips/Square Mile: 50.8

Person-Trips/Square Mile/Hour: 2.1

Trip Length: _____

Access

User: Phone

Pick-up Points: House

Access Time: _____

Vehicles

#	Type	Capacity
30	Cab	—
—	—	—
—	—	—

Special Features: _____

Communication/Dispatching

Mobile Communications: one-way paging device

Control Center: manual dispatching

Computer: _____

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other _____

Service Levels (average time)

Ride Time: _____ Promised Wait Time: _____

Actual Wait Time (immediate request): _____

Pick-Up Deviation (advanced request): _____

Transfer Time: _____

Productivity

Passengers/Vehicle-Hour: _____

Passengers/Vehicle-Mile: _____

Economics

Cost/Passenger Trip: _____

Revenue/Passenger Trip: _____

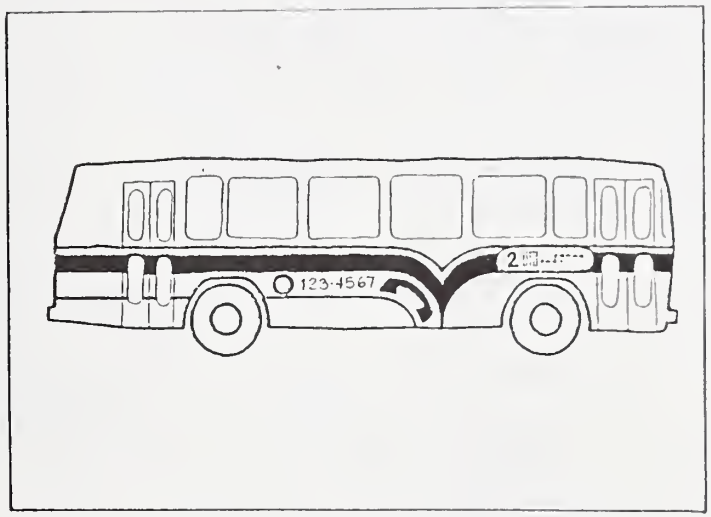
Cost/Vehicle-Hour: _____

Drivers' Salary: $_____/hour

System Contact: _____

References Used: System documentation from report: Lea Transit Compendium, Paratransit, Vol. 11 #8, 1975

Data year: 1975



or

Institutional Integration

System Name: MAXYTAXY (demonstration)

System No. 79

Location: Westport, Conn.

Organization: Authority: Westport Transit District; Operator: Westport Transport Corp.; Consultant: Multisystems

Project History: Service initiation of shared-taxi in 4-77 followed by initiation of E & H, am fixed route supplement, pm fixed route supplement in 5-77 with resulting increase in pre-existing fixed-route service.

Institutional Issues: Problems with insurance and labor management. Local taxi operation sued District; case now in U.S. Circuit Court of Appeals.

Area Description

Population: 30,000

Service Area Pop. 30,000

Target Group Pop.

Service Area Size: 22.2 sq.mi.

Number of Zones: 15

Pop. Density of Service Area: 1351/sq. mi

Service Area Type: entire city

Eligible Ridership: All + parcels

Integrated with Fixed-Route System: • local fixed-route bus • rail

Integrated

Supply

Service Type: m to m: peak/off peak

Fares: Regular 1.00 to 3.00

Special

Vehicles in Service: 11

Peak: 7 Off-Peak: 4

Hours of Service: Mon-Thurs 5:45 am - 1:00 am
Fri - Sat 5:45 am - 2:00 am
Sun 5:45 am - 1:00 am

Annual Fleet Service Miles: 412,000 est.

Annual Fleet Service Hours: 29,500 est.

Number of Employees: 26

Drivers: 19 Control Room: 5

Maintenance: 2

Demand

Weekday Ridership: 400 est. Peak:

Annual Ridership: 100,000 est.

Person-Trips/1000 Residents: 13.3

Person-Trips/Square Mile: 18.0

Person-Trips/Square Mile/Hour: 1.0

Trip Length: 3.7 miles

Access

User: Phone, hail

Pick-up Points: house, hail, designated points

Access Time: Immed. service adv. reserv., subscription

Vehicles

#	Type	Capacity
11	van	16

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: 12.25 min. Promised Wait Time:

Actual Wait Time (immediate request): 6.4 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 3.4

Passengers/Vehicle-Mile: .24

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ 1.40

Cost/Vehicle-Hour:

Drivers' Salary: $ 4.00 /hour 20% fringe benefits

System Contact: Richard Clair
Westport Transit District
304 Post Rd. East
Westport, Conn. 06880

References Used: System documentation supplied by Westport Transit District.
Data year: 1977 (service initiated 4-77)

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Ride (Portion of Teltran System) - discontinued

System No. 80

Location: Ann Arbor, Michigan

Organization: Authority, Planner & Operator: Ann Arbor Transportation Authority

Project History: Began with Pilot Project in 1971; add zones one to two at a time starting Sept. 1973 after pilot project over. Final zone added June 1976. Rural service area added July 1976.

Institutional Issues: Severe legal and funding problems: taxi lawsuit and state funding uncertain year to year.

Area Description

Population: 180,000

Service Area Pop. 180,000

Target Group Pop.

Service Area Size: 45 sq. mi.

Number of Zones: 16

Pop. Density of Service Area: 4000/sq. mi

Service Area Type: entire city; county for E & H only

Eligible Ridership: All

Integrated with Fixed-Route System: • local fixed-route bus • DAR in other zones

Integrated

Supply

Service Type: within zones - M to M: Peak, off-peak
M to F: peak, off-peak
M to O: peak, off-peak
between zones

Fares: Regular 35¢

Special

Vehicles in Service: 48

Peak: 32 Off-Peak: 19

Hours of Service: Mon-Fri 6am-9:45pm
Sat-Sun 8am-6pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 103,980

Number of Employees: 260 Teletran Sys.

Drivers: 210 Control Room: 20

Maintenance: 20

Demand

Weekday Ridership 2500 est. Peak:

Annual Ridership: 750,000 est.

Person-Trips/1000 Residents: 13.9

Person-Trips/Square Mile: 55.6

Person-Trips/Square Mile/Hour: 3.5

Trip Length: 2.3 miles

Access

User: Phone, hail, fixed stops

Pick-up Points: House, designated points

Access Time: Adv. reserv. (30 min.), subscription

Vehicles

#	Type	Capacity
48	van	12

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio, digital-video

Control Center: dedicated computer

Computer: does storage/retrieval of orders, assignment to tours

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other Independent Employees Union

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 28 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: 4 min.

Productivity •

Passengers/Vehicle-Hour: 5.6

Passengers/Vehicle-Mile:

Economics •

Cost/Passenger Trip: 3.54

Revenue/Passenger Trip: .23

Cost/Vehicle-Hour: 19.85

Drivers' Salary: $5.15/hour

System Contact: Steve Fern
Ann Arbor Transp. Auth.
3700 Carpenter Road
Ypsilanti, Mich. 48197

SYSTEM SUMMARY SHEETS

References Used: System documentation supplied by Ann Arbor Transp. Auth. and UMTA/TSC System Method & Demonstration Evaluation, March 1977. (Cost data is FY76)

Data Year: 7-76 to 6-77

System Name: DERT (demonstration)

Location: Rochester, New York

System No. 81

Organization: Authority & Planner: Rochester-Genesee Reg'l Transp. Auth.; Operator: Regional Transit Service;

Project History: Consultants: Mass. Institute of Technology; SYSTAN, INC.
Service area expansions: 6-74, 9-74, 11-74, 9-75, 4-76.
Jan. 1977: reduction in operating hours; eliminate some services.
June 1977: eliminate some services

Institutional Issues: Problems with labor contract and funding; delays in negotiating caused one month's interruption in service.

Area Description

Population: 105,000

Service Area Pop. 105,000

Target Group Pop. ____

Service Area Size: 22.8 sq.mi.

Number of Zones: 2

Pop. Density of Service Area 4605 sq. mi

Service Area Type: suburban area

Eligible Ridership: ALL

Integrated with Fixed-Route System: local fixed-route bus

Integrated

Supply

Service Type: M to O: Peak (subscription, handicapped)
M to F: off-peak (handicap)
M to M: off-peak (Dial-A-Bus)
Dew Ridge: Deo. from ckpoint combined with fixed route; off peak

Fares: Regular 75¢ Dew Ridge; 125 Dial-A-Bus

Special 35¢, 50¢ E & H

Vehicles in Service: 26

Peak: ____ Off-Peak: ____

Hours of Service: Mon-Fri. 8 am - 4 pm

Annual Fleet Service Miles: 250,000

Annual Fleet Service Hours: 22,600

Number of Employees: ____

Drivers: 14 Control Room: 4

Maintenance: ____

Demand

Weekday Ridership: 460 Peak: 50

Annual Ridership: 115,000

Person-Trips/1000 Residents: 4.4

Person-Trips/Square Mile: 20.2

Person-Trips/Square Mile/Hour: 2.5

Trip Length: 2.6 miles

Access

User: Phone, fixed stops

Pick-up Points: house, designated points

Access Time: Immed. service, adv. reserv., subscription

Vehicles

#	Type	Capacity
7	small bus	25
12	small bus	17
7	van	10,17,20

Special Features: 7 with lifts

Communication/Dispatching

Mobile Communications: digital-video

Control Center: magnetic map; computer: time-shared with other functions.

Computer: does address location; vehicle assignment; route determination; mgmt info.

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 11 min. Promised Wait Time: ____

Actual Wait Time (immediate request): 17 min.

Pick-Up Deviation (advanced request): 6 min.

Transfer Time: 8 min. avg.

Productivity

Passengers/Vehicle-Hour: 5.1

Passengers/Vehicle-Mile: .46

Economics

Cost/Passenger Trip: $ 4.22

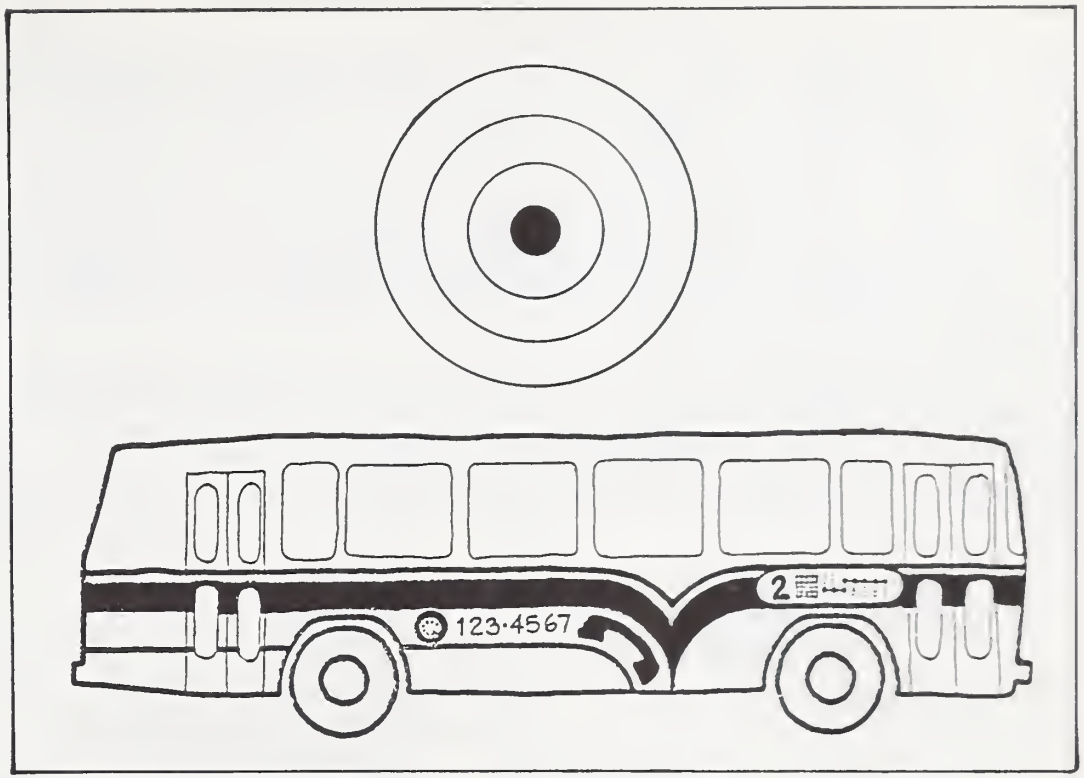
Revenue/Passenger Trip: $ .55

Cost/Vehicle-Hour: $ 21.46

Drivers' Salary: $6.61 /hour

System Contact: Bill Evans
Rochester-Genesee Reg'l Transp. Authority
55 St. Paul St.
Rochester, New York 14604

References Used: system documentation supplied by Systan Inc., demonstration evaluator
Data year: 1977



Target Market Dial-a-Bus

System Name: Special Needs Transportation

Location: Tucson, Arizona

Organization: Sponsor, Planner & Operator: City of Tucson; Consultant: DAVE Systems

Project History: DRT service initiated as a "model cities" project in 1971, serving only a small area of the inner city. In July 1973 service was expanded to entire city & combined with wheel chair service formerly provided by Easter Seal Society. All staff & equipment absorbed by the city.

Institutional Issues: Severe legal problem: City sued by private carrier. As result, system can only carry poverty-level citizens (U.S. Dept. of Labor standards).

System No. 82

Area Description

Population: 310,000

Service Area Pop.

Target Group Pop. not available

Service Area Size: 97 sq.mi.

Number of Zones:

Pop. Density of Service Area 3196/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type: entire city

Eligible Ridership: E&H, low income

Integrated with Fixed-Route System: no

Supply

Service Type: M to M, M to F, M to O: peak/off peak

Fares: Regular Free

Special

Vehicles in Service: 28

Peak: 25 Off-Peak: 3

Hours of Service: Mon-Fri 7am-10:30pm

Annual Fleet Service Miles: 620,702

Annual Fleet Service Hours: N/A

Number of Employees: 35

Drivers: 26 Control Room: 5

Maintenance: 0

Demand

Weekday Ridership 680 Peak:

Annual Ridership: 180,000

Person-Trips/1000 Residents: 2.2

Person-Trips/1000 Eligible Pop.

Person-Trips/Square Mile: 7.0

Person-Trips/Square Mile/Hour: .45

Trip Length: 4.6 miles

Access

User: Phone

Pick-up Points: house, designated points

Access Time: Adv. reserv. (2 hrs), subscription

Vehicles

#	Type	Capacity
10	van	8
13	van	11
5	van	15

Special Features: 10 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map, visible files

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☑ Other city employees

Service Levels (average time)

Ride Time: N/A Promised Wait Time: N/A

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile: .29

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $5.29/hour 18% fringe benefits

System Contact: Larry Wren
Special Needs Transp. Service
City of Tucson
P.O. Box 27210
Tucson, Arizona 85726

References Used: System documentation supplied by City of Tucson.
Data year: 7-76 to 6-77

System Name:

Location: Phoenix, Arizona

Organization: Sponsor: Phoenix Human Resources Dept.
Operator: Phoenix Transit Corp.

Project History:

Institutional Issues:

System No. 83

Area Description

Population: 863,000

Service Area Pop. 150,000

Target Group Pop. 15,000

Service Area Size: 63 sq. mi

Number of Zones:

Pop. Density of Service Area 2381/sq. mi

Eligible Pop. Density 238/sq. mi

Service Area Type:

Eligible Ridership: elderly, low income

Integrated with Fixed-Route System:

Supply

Service Type: M to F: peak/off peak.

Fares: Regular Free

Special

Vehicles in Service: 23

Peak: Off-Peak:

Hours of Service: mon.-Fri. 8 am - 5 pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 10

Drivers: 8 Control Room: 2

Maintenance:

Demand

Weekday Ridership: 850 Peak:

Annual Ridership: 204,000 est.

Person-Trips/1000 Residents: 5.7
Person-Trips/1000 Eligible Pop. 56.7

Person-Trips/Square Mile: 13.5

Person-Trips/Square Mile/Hour: 1.5

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time: Advance reserv. (24 hrs.)

Vehicles

#	Type	Capacity
21	vans	
2	large bus	35

Special Features: 0

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: -

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: T.J. Ross
City of Phoenix
251 W. Wash. St.
Phoenix, Ariz. 85003

References Used: Maricopa Association of Governments, Existing Specialized Transit in the Phoenix Metro. Area, July 1977. Data Year: FY 77.

System Name: DIAL-A-RIDE

Location: Montebello, California

Organization: Operator: Montebello Muni. Transit

Project History:

Institutional Issues:

System No. 84

Area Description

Population: 47,200

Service Area Pop.

Target Group Pop. 4248

Service Area Size: 8.2 sq.mi.

Number of Zones:

Pop. Density of Service Area 5756 /sq. mi

Eligible Pop. Density 518 /sq. mi

Service Area Type: entire city

Eligible Ridership: Elderly (92% of riders)

Integrated with Fixed-Route System:

Supply

Service Type: M to M: peak/ off peak

Fares: Regular 75¢

Special 35¢ E & H 50¢ children

Vehicles in Service: 1

Peak: Off-Peak:

Hours of Service: mon-Fri 9am-5pm

Annual Fleet Service Miles: 21,600 est.

Annual Fleet Service Hours:

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 43 Peak:

Annual Ridership: 11,180 est.

Person-Trips/1000 Residents: .9

Person-Trips/1000 Eligible Pop. 10.9

Person-Trips/Square Mile: 5.2

Person-Trips/Square Mile/Hour: .7

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time:

Vehicles

#	Type	Capacity
1	large bus	35

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request): 15 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile: .52

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: System documentation from: So. Calif. Ass'n of Gov'ts (SCAG) statistics and Calif. DOT, Transguide, SOA 2.63.
Data year: ?1976

System Name: Special Transit Service

Location: Riverside, California

Organization: Sponsor & operator } City of Riverside

System No. 85

Project History:

Institutional Issues:

Area Description

Population: 158,000

Service Area Pop.

Target Group Pop. ?

Service Area Size: 80 sq.mi.

Number of Zones:

Pop. Density of Service Area 1975/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type:

Eligible Ridership: E & H

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular free

Special

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service: Mon-Fri. 8am-5pm
Sat-Sun - 8am-3pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: ___ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 175 est. Peak: ___

Annual Ridership: 52,800 est.

Person-Trips/1000 Residents: 1.1

Person-Trips/1000 Eligible Pop. ___

Person-Trips/Square Mile: 2.2

Person-Trips/Square Mile/Hour: .2

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time: Adv. reserv. (14 hrs) subscription

Vehicles

#	Type	Capacity
5	small bus	

Special Features: 1 with lift

Communication/Dispatching

Mobile Communications:

Control Center: radio dispatch.

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

References Used: system documentation from: Calif. DOT, Transguide, SOA 2.79

Data Year: 1976

System Name: Dial-A-Ride

Location: San Diego, California

Organization: Sponsor: City of San Diego & Operator

Project History: City consolidated three systems: model cities, Linda Vista Dial-A-Bus, and Senior Citizens mobility Project in Sept. 1974.

Institutional Issues: no problems

System No. 86

Area Description

Population: 855,000

Service Area Pop.: ____

Target Group Pop.: 101,000

Service Area Size: 106 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 8066/sq. mi

Eligible Pop. Density: 953/sq. mi

Service Area Type: section of city

Eligible Ridership: E & H only

Integrated with Fixed-Route System: no

Supply

Service Type: m to 0: m to m: peak/off peak

Fares: Regular 25¢

Special 10¢ with SDTC monthly pass

Vehicles in Service: 18

Peak: 18 Off-Peak: ____

Hours of Service: Mon.-Fri.: 8am-6pm

Annual Fleet Service Miles: 625,000

Annual Fleet Service Hours: 34,560

Number of Employees: 30.5

Drivers: 21 Control Room: 4

Maintenance: 0

Demand

Weekday Ridership: 600 Peak: ____

Annual Ridership: 140,000

Person-Trips/1000 Residents: .7

Person-Trips/1000 Eligible Pop.: 5.9

Person-Trips/Square Mile: 5.7

Person-Trips/Square Mile/Hour: .6

Trip Length: 4.6 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Immed. service, adv. reserv. (24 hrs), subscription

Vehicles

#	Type	Capacity
12	small bus	19
9	van	11
____	____	____

Special Features: 3 with lifts

Communication/Dispatching

Mobile Communications: telephone 2-way radio

Control Center: manual dispatching

Computer: ____

Labor

Union ☐ Non-Union ☑ 8 Volunteer ☐

Part-time ☑ 3 Other Indep. union-10

Service Levels (average time)

Ride Time: 12 min Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 30 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: no info.

Productivity

Passengers/Vehicle-Hour: 4.0

Passengers/Vehicle-Mile: .22

Economics

Cost/Passenger Trip: $3.58

Revenue/Passenger Trip: $.22

Cost/Vehicle-Hour: $14.50

Drivers' Salary: $4.40/hour 19% fringe benefits

System Contact: J.F. Riley
City of San Diego
Special Transp. Div.
1970 B Street
San Diego, Calif. 92102

References Used: System documentation supplied by City of San Diego.
Data year: 7-76 to 7-77.

SYSTEM SUMMARY SHEETS

System Name: Rural Bus System

System No. 87

Location: So. East San Diego County, California

Organization: Authority, Planner & Operator: Dept. of Transportation, County of San Diego

Project History: County took over operation of S.E. Senior Citizen Mobility Project in Jan. 1976. System provides "lifeline" function for rural residents. System is fixed-route service with demand-responsive option, requiring 24 hr. notice.

Institutional Issues: Insurance problem solved "by insuring these vehicles within larger policy covering all County vehicles. For small agencies, this solution may not be available.

Area Description

County Population: 1,559,505

Service Area Pop. 22,000

Target Group Pop. 22,000

Service Area Size: 800 sq. mi

Number of Zones:

Pop. Density of Service Area: 28/sq. mi

Eligible Pop. Density 28/sq. mi

Service Area Type: rural section of County

Eligible Ridership: transit dependent; available to all

Integrated with Fixed-Route System: · local fixed-route bus · intercity bus

Supply

Service Type: Deviation from route: off peak.

Fares: Regular $1.25 outer 1/3 service area
Special $1.00 middle 1/3 service area
$.75 inner 1/3 service area

Vehicles in Service: 2

Peak: — Off-Peak: 2

Hours of Service: 4 route schemes approx. hrs covered: Mon-Fri, 8-11am 2:30-5:30pm

Annual Fleet Service Miles: 73080

Annual Fleet Service Hours: 4,130

Number of Employees: 3

Drivers: 2 Control Room: 1

Maintenance: —

Demand

(average 2 demand responsive trips)

Weekday Ridership: 20 Peak: —

Annual Ridership: 5100 (510 est. demand-resp.)

Person-Trips/1000 Residents: .9
Person-Trips/1000 Eligible Pop. .9

Person-Trips/Square Mile: .03

Person-Trips/Square Mile/Hour: .01

Trip Length: 30 miles.

Access

User: Phone, mail

Pick-up Points: House, mail, designated points

Access Time: Immediate, advance reserv. (24 hrs.)

Vehicles

#	Type	Capacity
2	van	14
—		
—		

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 2.5 hrs. Promised Wait Time: N/A

Actual Wait Time (immediate request): N/A

Pick-Up Deviation (advanced request): N/A

Transfer Time: 10 min.

Productivity

Passengers/Vehicle-Hour: 1.2

Passengers/Vehicle-Mile: .07

Economics

Cost/Passenger Trip: $10.72

Revenue/Passenger Trip: $1.00

Cost/Vehicle-Hour: $13.24

Drivers' Salary: $ /hour

System Contact: W.A. Hoeben
County of San Diego
Bldg. 2 - 5555 Overland Ave.
San Diego, Calif. 92123

SYSTEM SUMMARY SHEETS

References Used: system documentation supplied by County of San Diego
Data Year: 1977

System Name: Dial-A-Ride

System No. 88

Location: West Hartford, Conn.

Organization: Sponsor: Town of West Hartford; Planner: Dept. of Social Services (Town); Operator: Dept. of Social Services

Project History: most trips to downtown Hartford are medical trips with no available tie in to public transit...

Institutional Issues:

Area Description

Population: 68,031

Service Area Pop. 68,031

Target Group Pop. 16,000

Service Area Size: 240 sq.mi.

Number of Zones:

Pop. Density of Service Area: 283/sq. mi

Eligible Pop. Density 67/sq. mi

Service Area Type: entire city

Eligible Ridership: elderly

Integrated with Fixed-Route System: no

Supply

Service Type: mtom: peak/off peak

Fares: Regular

Special Contributions: 25¢

Vehicles in Service: 2

Peak: 2 Off-Peak: 2

Hours of Service: mon-Fri. - 8:30am - 4:30pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 1,750

Number of Employees: 2

Drivers: 2 Control Room:

Maintenance:

Demand

Weekday Ridership: 40 est. Peak:

Annual Ridership: 10,000

Person-Trips/1000 Residents: .59

Person-Trips/1000 Eligible Pop. 2.5

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .02

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time: Advance reservation (48 hrs.)

Vehicles

#	Type	Capacity
1	van	10
1	auto	6

Special Features: -

Communication/Dispatching

Mobile Communications:

Control Center: telephone

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 20 min Promised Wait Time: 15 min.

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request): 10 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 5.7

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Banita Burstein
West Hartford Social Services
50 South main
West Hartford, Conn.
06107

References Used: System documentation supplied by Town of West Hartford.
Data Year: 1977

System Name: DAST

Location: State of Delaware

Organization: Sponsor: State Dept. of Highways & Transportation
Operator: DAST (Delaware Authority for Spec. Transp.)

Project History: Provide specialized transportation services state-wide.

Institutional Issues: Legal & labor problems: enabling legislation forbids direct requests from clients - requests from agencies only. Labor question arose when DAST (non-union) proposed & ATU DART system existed in service area.

System No. 89

Area Description

Population: 574,692
Service Area Pop. 574,692
Target Group Pop. ?
Service Area Size: 2057 sq. mi.
Number of Zones:
Pop. Density of Service Area 279 /sq. mi.
Eligible Pop. Density ___/sq. mi.
Service Area Type: entire state
Eligible Ridership: elderly, handicapped, low income, mobility limited
Integrated with Fixed-Route System: taxis

Supply

Service Type: m to m: peak/off peak

Fares: Regular
Special

Vehicles in Service: 38
Peak: Off-Peak:

Hours of Service: Mon-Fri 6am-6pm

Annual Fleet Service Miles: 800,496
Annual Fleet Service Hours: 62,400
Number of Employees: 34.5
Drivers: 28.5 Control Room: 6
Maintenance: -

Demand

Weekday Ridership: 640 est. Peak:
Annual Ridership: 167,000
Person-Trips/1000 Residents: 1.11
Person-Trips/1000 Eligible Pop.
Person-Trips/Square Mile: .3
Person-Trips/Square Mile/Hour: .03
Trip Length: 5 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Immed., advance reserv. (24 hr.), subscrip.

Vehicles

#	Type	Capacity

Special Features: 5 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):
Pick-Up Deviation (advanced request):
Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.7
Passengers/Vehicle-Mile: .21

Economics

Cost/Passenger Trip: 2.99
Revenue/Passenger Trip:
Cost/Vehicle-Hour: 8.00
Drivers' Salary: $4.50/hour

System Contact:

References Used: Crain and Associates, Transportation Solutions for Handicapped, Vol. 4, 8-76.
Foulitz, "Overcoming Institutional Barriers," Paratransit 1976
Data Year: 1976

SYSTEM SUMMARY SHEETS

System Name: Senior Surrey

System No. 90

Location: Dover, Delaware

Organization: Sponsor & Authority: City of Dover; Planner & Consultant: DAVE Systems; Operator: City of Dover

Project History: No other transportation in Dover "so the elderly & handicapped had to rely on taxis & friends..."

Institutional Issues: no problems

Area Description

Population: 27,268

Service Area Pop. 27,268

Target Group Pop. 3,000

Service Area Size: 23 sq.mi.

Number of Zones:

Pop. Density of Service Area: 1186/sq. mi

Eligible Pop. Density 130/sq. mi

Service Area Type: entire city

Eligible Ridership: elderly & handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: m-to-m: peak/off-peak

Fares: Regular Free

Special

Vehicles in Service: 5

Peak: 5 Off-Peak: 3

Hours of Service: mon-Fri 7am-6pm

Annual Fleet Service Miles: 59,000

Annual Fleet Service Hours:

Number of Employees: 10

Drivers: 6 Control Room: 3

Maintenance: — Supervisor 1

Demand

Weekday Ridership 235 est. Peak:

Annual Ridership: 61,000

Person-Trips/1000 Residents: 8.6

Person-Trips/1000 Eligible Pop. .78

Person-Trips/Square Mile: 10.2

Person-Trips/Square Mile/Hour: .9

Trip Length: 1.7 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Immed., advance reserv.; subscrip.

Vehicles

#	Type	Capacity
—	van	
—		
—		

Special Features: 1 with lift & ramp

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 14.8 min Promised Wait Time: 37.9 min.

Actual Wait Time (immediate request): 35 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile: 1.03

Economics

Cost/Passenger Trip: 1.36

Revenue/Passenger Trip: —

Cost/Vehicle-Hour:

Drivers' Salary: $3.20/hour 29% fringe benefits

System Contact: Fran Hettinger

Dover Senior Surrey

P.O. Box 475

Dover, Delaware

References Used: System documentation supplied by City of Dover.
Data year: 1976

SYSTEM SUMMARY SHEETS

System Name: DART

Location: St. Petersburg, Florida

System No. 91

Organization: Sponsor: City of St. Petersburg; Authority: St. Petersburg Municipal Transit; Operator: DART (city)

Project History: Service initiated in 1973; in Nov. 1975 the territory was expanded with a resulting increase in service.

Institutional Issues:

Area Description

Population: 265,000

Service Area Pop. 265,000

Target Group Pop. 30,000

Service Area Size: 60 sq. mi

Number of Zones: —

Pop. Density of Service Area 4417/sq. mi

Eligible Pop. Density 500/sq. mi

Service Area Type: entire city

Eligible Ridership: handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: m to O: peak
m to F & m to M: off peak

Fares: Regular $1.00

Special

Vehicles in Service: 6

Peak: Off-Peak:

Hours of Service: Mon-Fri 7:30am-6:00pm
Sun. 8:00 am-2:00 pm

Annual Fleet Service Miles: 187,000

Annual Fleet Service Hours: 12,000

Number of Employees: 10

Drivers: 8 Control Room: 2

Maintenance: —

Demand

Weekday Ridership 250 Peak:

Annual Ridership: 60,000

Person-Trips/1000 Residents: .9

Person-Trips/1000 Eligible Pop. 8.3

Person-Trips/Square Mile: 4.2

Person-Trips/Square Mile/Hour: .4

Trip Length:

Access

User: Phone

Pick-up Points: designated points

Access Time: Immed., adv. reserv. (24 hrs.), subscrip.

Vehicles

#	Type	Capacity
8	van	13
—		
—		

Special Features: 6 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other IBFO

Service Levels (average time)

Ride Time 20 min Promised Wait Time: 20 min.

Actual Wait Time (immediate request): —

Pick-Up Deviation (advanced request): —

Transfer Time: —

Productivity

Passengers/Vehicle-Hour: 5.0

Passengers/Vehicle-Mile: .32

Economics

Cost/Passenger Trip: 4.05

Revenue/Passenger Trip: $1.00

Cost/Vehicle-Hour: 20.26

Drivers' Salary: $ /hour

System Contact: Derek Spain
St. Petersburg Municipal Transit System
P.O. Box 2842
St. Petersburg, Fla. 33731

References Used: System documentation supplied by City of St. Petersburg
Data year: 10-76 to 9-77.

SYSTEM SUMMARY SHEETS

System Name: MOSCH Special Transportation Service

System No. 92

Location: Chicago, Illinois

Organization: Sponsor: City of Chicago; Operator: Cook DuPage Trans. Inc.

Project History:

Institutional Issues: severe problems with funding and permit/licensing. Conflict with taxi franchise.

Area Description

Population: 3,367,000

Service Area Pop.

Target Group Pop. ?

Service Area Size: 250 est. sq.mi.

Number of Zones:

Pop. Density of Service Area: /sq. mi

Eligible Pop. Density /sq. mi

Service Area Type: entire city

Eligible Ridership: E & H

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak
M to F: off peak

Fares: Regular 1.00 for handicapped only
Special (reduced from 1.50 - 1st 9 mos.)

Vehicles in Service: 4

Peak: Off-Peak:

Hours of Service: Mon-Fri 6am - 8pm

Annual Fleet Service Miles: 109,800 est.

Annual Fleet Service Hours: not avail.

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 43 Peak:

Annual Ridership: 10,753

Person-Trips/1000 Residents: .01

Person-Trips/1000 Eligible Pop.

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .01

Trip Length: 8.3 miles

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reservation (24-48 hrs)

Vehicles

#	Type	Capacity
4	van	3+4 wheelchrs

Special Features: 4 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: computer: management info.

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 39 min. Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile: .10

Economics

Cost/Passenger Trip: $6.75

Revenue/Passenger Trip: $1.20

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: George Ducas
Mayor's Off. for Sr. Cit. & Handi.
180 No. La Salle St.
Chicago, Ill. 60601

References Used: system documentation supplied by mayor's office for senior citizens & handicapped (MOSCH)
Data year: 7-76 to 6-77

SYSTEM SUMMARY SHEETS

System Name: The UFT

System No. 93

Location: Topeka, Kansas

Organization: Sponsor: City of Topeka
Authority & Operator: Topeka Metro. Transit Auth.

Project History: After service initiation in 7-76, an additional bus was put in service in 10-76.

Institutional Issues: minor labor contract and funding problems. "Realistically" funded at present time.

Area Description

Population: 130,000

Service Area Pop.:

Target Group Pop.: not available

Service Area Size: 170 sq. mi.

Number of Zones:

Pop. Density of Service Area: 765 sq. mi

Eligible Pop. Density: sq. mi

Service Area Type: urbanized area including city & rural

Eligible Ridership: Priority to E & H

Integrated with Fixed-Route System: no

Supply

Service Type: M to O, M to F, Deviation from route: peak; M to M: off peak

Fares: Regular 1.00

Special none

Vehicles in Service: 2

Peak: Off-Peak:

Hours of Service: mon.-Fri. 6:30am to 6:30pm

Annual Fleet Service Miles: 74,115

Annual Fleet Service Hours: 5,286

Number of Employees: 5.5

Drivers: 3 Control Room: 2

Maintenance: .5

Demand

Weekday Ridership: 80 Peak: 50

Annual Ridership: 20,800 est.

Person-Trips/1000 Residents: .6

Person-Trips/1000 Eligible Pop.:

Person-Trips/Square Mile: .05

Person-Trips/Square Mile/Hour: .04

Trip Length: 3 miles

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reserv. (24 hrs), subscription

Vehicles

#	Type	Capacity
3	small bus	13+4 wheelchrs

Special Features: 3 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer: no computer

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 20 min. Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request):

Transfer Time: none

Productivity

Passengers/Vehicle-Hour: 3.9

Passengers/Vehicle-Mile: .28

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ 1.00

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Jack Malone
Topeka Metro. Transit Auth.
201 N. Kansas
Topeka, Kansas 66603

References Used: system documentation supplied by Topeka Metro. Transit Authority
Data Year: 6-76 to 6-77

SYSTEM SUMMARY SHEETS

System Name: STS (Special Transportation Service)

Location: Baton Rouge, Louisiana

Organization: Authority & Operator: Capital Transportation Corp.

Project History: Initiated in Sept. 1974; trip destinations expanded and a 5th vehicle added in Oct-Nov 1974; discontinued due to drivers strike in Dec 1975; and, renewed under HEW Title XX grant in Jan. 1976.

Institutional Issues:

System No. 94

Area Description

Population: 248,000

Service Area Pop. 248,000

Target Group Pop. 18,300

Service Area Size: 88 sq.mi.

Number of Zones: 5

Pop. Density of Service Area: 2818/sq. mi

Eligible Pop. Density 208/sq. mi

Service Area Type: entire city

Eligible Ridership: elderly & handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: M to F: peak/off peak

Fares: Regular Free

Special

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service:

Mon - Fri: 7:30 am - 5:30 pm

Annual Fleet Service Miles: 263,220

Annual Fleet Service Hours: 10,860

Number of Employees:

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 132 Peak:

Annual Ridership: 33,157

Person-Trips/1000 Residents: .5

Person-Trips/1000 Eligible Pop. 7.2

Person-Trips/Square Mile: 1.5

Person-Trips/Square Mile/Hour: .15

Trip Length: 3.7 miles

Access

User: Phone

Pick-up Points: house

Access Time: Advance reserv. (24 hrs.)

Vehicles

#	Type	Capacity
6	van	12

Special Features: 2 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map

Computer:

Labor

Union ☒ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 3.0

Passengers/Vehicle-Mile: .13

Economics

Cost/Passenger Trip: 3.51

Revenue/Passenger Trip: -

Cost/Vehicle-Hour: 10.72

Drivers' Salary: $ /hour

System Contact:

References Used: UMTA, Services & Methods Demonstrations, Annual Report, April 1977; Evaluation Report, Nov. 1976. Data year: 9/74 to 8/75.

SYSTEM SUMMARY SHEETS

System Name:

Location: Sanford, Maine

Organization: Authority, Planner & Operator: York County Community Action Corp.

Project History:

Institutional Issues: severe funding problem due to uncertainty year to year. Minor problems with insurance and community response

System No. 95

Area Description

Population: 140,000

Service Area Pop.

Target Group Pop.

Service Area Size: 1,000 sq.mi.

Number of Zones:

Pop. Density of Service Area: 140/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type: rural county

Eligible Ridership: E & H, low income

Integrated with Fixed-Route System:

Supply

Service Type: m to o: peak

Fares: Regular free

Special

Vehicles in Service: 13

Peak: Off-Peak:

Hours of Service: mon.-Fri. 6:30 am-5pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: 13 Control Room: 2

Maintenance: 1

Demand

Weekday Ridership: 60 Peak:

Annual Ridership: 15,000

Person-Trips/1000 Residents: .4

Person-Trips/1000 Eligible Pop.

Person-Trips/Square Mile: .1

Person-Trips/Square Mile/Hour: .006

Trip Length: 40 miles

Access

User: Phone

Pick-up Points: House

Access Time: Advance reserv. (24 hr.)

Vehicles

#	Type	Capacity
10	van	16
3	van	12+2 wheelchrs

Special Features: 3 with lifts & ramps

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 60 min Premised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $3.25/hour 18% fringe benefits

System Contact: Lucille Simpson
York Co. Community Action Corp.
Box 72
Sanford, maine 04072

References Used: system documentation supplied by York Co. Community Action Corp.
Data year: Nov. '76 - Oct. '77

SYSTEM SUMMARY SHEETS

System Name: The Ride

Location: Boston, Massachusetts

Organization: Authority & Planner: MBTA ; Operator: T.H.E.M. Inc.

System No. 96

Project History: started in April 1977 as a two year demonstration; altered service area in Jan 1978 which improved productivity.

Institutional Issues: minor problems with insurance, funding and community/political response.

Area Description

Population: 641,071

Service Area Pop. 100,000

Target Group Pop. 10,000

Service Area Size: 15 sq.mi.

Number of Zones: 5

Pop. Density of Service Area: 6667/sq. mi

Eligible Pop. Density 667/sq. mi

Service Area Type: section of city

Eligible Ridership: handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off-peak

Fares: Regular 75¢

Special $3 - agency funded trips

Vehicles in Service: 4

Peak: _____ Off-Peak: _____

Hours of Service: Mon-Thurs 7am-6pm Fri 7am-1am Sat. 10am-1am

Annual Fleet Service Miles: 88,000

Annual Fleet Service Hours: 11,200

Number of Employees:

Drivers: 4 Control Room: 3

Maintenance: -

Demand

Weekday Ridership: 80 Peak: 55

Annual Ridership: 12,000

Person-Trips/1000 Residents: .8

Person-Trips/1000 Eligible Pop. .8

Person-Trips/Square Mile: 5.3

Person-Trips/Square Mile/Hour: .5

Trip Length: 4.0 miles

Access

User: Phone

Pick-up Points: house, designated points

Access Time: Immed., subscrip., adv. reserv. (24 hr.)

Vehicles

#	Type	Capacity
5	van	9

Special Features: 4 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 25 min Promised Wait Time: 10 min.

Actual Wait Time (immediate request): 30 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 4.3

Passengers/Vehicle-Mile: .55

Economics

Cost/Passenger Trip: 8.75

Revenue/Passenger Trip: $.95

Cost/Vehicle-Hour: 9.38

Drivers' Salary: $4.00/hour 15% fringe benefits

System Contact: A.J. Kinahan
Mass. Bay Trans. Auth.
- Special Needs
45 High Street
Boston, Mass 02110

References Used: System documentation supplied by MBTA
Data year: 1977?

SYSTEM SUMMARY SHEETS

System Name: SMITS - special mobility impaired transit service

System No. 97

Location: Central Massachusetts

Organization: Sponsor: Worcester Council on Aging; Authority: Worcester Regional Transit Auth.; Planner: Central Mass. Reg'l Plan. Commission; Operators: Handicapped Transp. & Jewish Service Ctr for Older Adults

Project History:

Institutional Issues: minor funding problem

Area Description

Population: 292,748

Service Area Pop.:

Target Group Pop.: 13,000

Service Area Size: 298.6 sq. mi.

Number of Zones:

Pop. Density of Service Area: 980 sq. mi.

Eligible Pop. Density: 44/sq. mi.

Service Area Type: 13 cities & towns

Eligible Ridership: handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: m-to-m: peak/off peak

Fares: Regular 1.00 peak hour

Special 50¢ off peak
free - elderly

Vehicles in Service: 3

Peak: Off-Peak:

Hours of Service: mon.-Fri. 6am-6pm
subscription 6-9am; 3-6pm

Annual Fleet Service Miles:

Annual Fleet Service Hours: 9,156

Number of Employees:

Drivers: 6 Control Room: 4

Maintenance:

Demand

Weekday Ridership: 80 est. Peak:

Annual Ridership: 19,176

Person-Trips/1000 Residents: .3
Person-Trips/1000 Eligible Pop. .6

Person-Trips/Square Mile: .3

Person-Trips/Square Mile/Hour: .02

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reserv. (72 hrs) subscription

Vehicles

#	Type	Capacity
2	van	5+2 wheelchr.
1	van	4+3 wheelchr.

Special Features: 3 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time):

Ride Time: 15 min. Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request): 5 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.1

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Janet Krauss
Central Mass Reg'l Plan. Com.
71 Elm St.
Worcester, Mass. 01609

References Used: System documentation supplied by Central Mass Regional Planning Commission
Data year: 7-76 to 7-77

System Name: Westford Senior Bus

Location: Westford, Massachusetts

Organization: Authority: Lowell Regional Transit Authority.
Operator: Leasing Systems Development Corp.

Project History: Started in July 1976 and replaced the existing service.

Institutional Issues: Problem with community response: town composed of small villages with different objectives. Need strong input from local organizations & groups.

System No. 98

Area Description

Population: 13,200

Service Area Pop. ____

Target Group Pop. 2,000

Service Area Size: ____ sq.mi.

Number of Zones: -

Pop. Density of Service Area: ____/sq. mi

Eligible Pop. Density ____/sq. mi

Service Area Type: suburban area

Eligible Ridership: elderly & handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: m to o
m to F : peak/off peak
m to m & route deviation
: off peak

Fares: Regular 30¢ in town

Special 15¢ out of town

Vehicles in Service: 1-3

Peak: 1-3 Off-Peak: 1

Hours of Service: Mon-Thurs 9am-4pm
Fri: nutrition only
Sun: church only

Annual Fleet Service Miles: ____

Annual Fleet Service Hours: ____

Number of Employees: 3

Drivers: 1 Control Room: 1

Maintenance: 1

Demand

Weekday Ridership: 8.6 Peak: ____

Annual Ridership: 2,000

Person-Trips/1000 Residents: .6
Person-Trips/1000 Eligible Pop. 4.3

Person-Trips/Square Mile: ____

Person-Trips/Square Mile/Hour: ____

Trip Length: ____

Access

User: Phone

Pick-up Points: House

Access Time: Immed., subscrip., adv. reserv. (24 hrs)

Vehicles

#	Type	Capacity
___	van	10-12
___	small bus	16-25
___	___	___

Special Features: none

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer: ____

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: ____ Promised Wait Time: 10 min.

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: ____

Passengers/Vehicle-Mile: ____

Economics

Cost/Passenger Trip: 9.80

Revenue/Passenger Trip: $.23

Cost/Vehicle-Hour: ____

Drivers' Salary: $3.70/hour 11% fringe benefits

System Contact: Joe Potzka
Lowell Regional Transit Auth.
10 Kearney Square
Lowell, Mass. 01852

References Used: System documentation supplied by Lowell Regional Transit Authority
Data year: 7-76 to 7-77.

SYSTEM SUMMARY SHEETS

System Name: Elder Shopper Special

System No. 99

Location: Worcester, Massachusetts

Organization: Sponsor: Worcester Council on Aging; Authority: Worcester Regional Transit Auth.; Planner: Central Mass. Regional Plan. Commission; Operator: Worcester Bus Co.

Project History:

Institutional Issues: severe labor problems: strained labor relations as union drivers insist on having escorts on board to assist passengers; recently refused overtime hours and a few trips had to be curtailed.

Area Description

Population: 176,572

Service Area Pop.:

Target Group Pop.: 35,067

Service Area Size: 38.5 sq.mi.

Number of Zones: 5

Pop. Density of Service Area: 4586 sq. mi

Eligible Pop. Density 911/sq. mi

Service Area Type: entire city

Eligible Ridership: Elderly

Integrated with Fixed-Route System: no

Supply

Service Type: M to O: off peak

Fares: Regular Free

Special

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service: mon.-Fri. 9am-4pm

Annual Fleet Service Miles: 36,455

Annual Fleet Service Hours: 3,705

Number of Employees:

Drivers: 5 Control Room: 6*

Maintenance: * 3 escorts

Demand

Weekday Ridership: 250 est. Peak:

Annual Ridership: 60,052

Person-Trips/1000 Residents: 1.4

Person-Trips/1000 Eligible Pop. 1.1

Person-Trips/Square Mile: 6.5

Person-Trips/Square Mile/Hour: .9

Trip Length:

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Adv. reservation, subscription

Vehicles

#	Type	Capacity
5	small bus	21

Special Features:

Communication/Dispatching

Mobile Communications: none

Control Center:

Computer: no computer

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request): 5 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 16.2

Passengers/Vehicle-Mile: 1.65

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Janet Kraus
Central Mass Reg'l Plan. Com.
71 Elm St
Worcester, mass. 01609

References Used: system documentation supplied by Central mass. Regional Planning Commission. Data year: 7-76 to 6-77

SYSTEM SUMMARY SHEETS

System Name: Go Bus

Location: Grand Rapids, Michigan

Organization: Operator: Grand Rapids Area Transit Authority

Project History: Authority in process of co-ordinating all area agency special transportation programs, including public schools, with grant received from H.E.W.

Institutional Issues: minor problems with insurance, labor work rules, community & political response

System No. 100

Area Description

Population: 350,000

Service Area Pop.: ____

Target Group Pop.: (not given)

Service Area Size: 125 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 2800/sq. mi

Eligible Pop. Density ____/sq. mi

Service Area Type: 6 cities & part of county

Eligible Ridership: E & H - agency clients only

Integrated with Fixed-Route System: ____

Supply

Service Type: M to O, M to Few, M to M: peak/off peak

Fares: Regular 60¢

Special 50¢ - 10 rides. 25¢ - group rides 10 or more

Vehicles in Service: 9

Peak: 9 Off-Peak: 6-7

Hours of Service: Mon.-Fri. 6am-6pm Sat. 8am-6pm

Annual Fleet Service Miles: 200,000

Annual Fleet Service Hours: 14,000

Number of Employees: 9

Drivers: 7 Control Room: 2

Maintenance: 1.5

Demand

Weekday Ridership: 275 Peak: ____

Annual Ridership: 45,000

Person-Trips/1000 Residents: .8

Person-Trips/1000 Eligible Pop. ____

Person-Trips/Square Mile: 2.2

Person-Trips/Square Mile/Hour: .2

Trip Length: 4.4 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Advance reserv. (24 hrs) subscription

Vehicles

#	Type	Capacity
2	van	8
3	small bus	14
6	small bus	21

Special Features: 5 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: no computer

Labor

Union ☒ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 22.5 min Promised Wait Time: ____

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 3.2

Passengers/Vehicle-Mile: .22

Economics

Cost/Passenger Trip: $4.34

Revenue/Passenger Trip: $.44

Cost/Vehicle-Hour: $13.96

Drivers' Salary: $5.50/hour 25% fringe benefits

System Contact: David Needham
Grand Rapids Area Transit Auth.
1151 Sheldon SE
Grand Rapids, Mich. 49507

References Used: System documentation supplied by Grand Rapids Area Transit Auth.
Data year: 77-78

System Name: OATS, Inc.

Location: Missouri (Columbia, Headquarters)

Organization: Sponsor: OATS, Inc.

System No. 101

Project History: Started in Fall of 1971; "has survived many storms since 1971." and expanded to cover 89 counties in the state. "unusual concept of citizen involvement in management."

Institutional Issues: Problems with insurance and funding. Insurance: "very costly, too few bidders Funding: needs outstrip available funds, lack of funding continuity & lack of funding certainty."

Area Description

Population: 4,676,501

Service Area Pop.

Target Group Pop. 220,000

Service Area Size: 68,995 sq. mi.

Number of Zones:

Pop. Density of Service Area: 68 /sq. mi

Eligible Pop. Density 3.2 /sq. mi

Service Area Type: 89 counties

Eligible Ridership: elderly & handicapped

Integrated with Fixed-Route System:

Supply

Service Type: M to O, M to F, M to M, Deviation from route

Fares: Regular

Special

Vehicles in Service: 116

Peak: Off-Peak:

Hours of Service: mon-FRI 7am-7pm sun-as requested

Annual Fleet Service Miles: 3,480,000

Annual Fleet Service Hours: 278,400

Number of Employees: 181

Drivers: 152 Control Room: 28 Ops-Adm.

Maintenance: 1

Demand

Weekday Ridership: 1100 Peak:

Annual Ridership: 280,000

Person-Trips/1000 Residents: .2 Person-Trips/1000 Eligible Pop. 5.0

Person-Trips/Square Mile: .02

Person-Trips/Square Mile/Hour: negligible

Trip Length: 8 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Adv. reserv. (24hrs-2wks) subscription

Vehicles

#	Type	Capacity
	van	15
	small bus	36
	large bus	54

Special Features:

Communication/Dispatching

Mobile Communications: one-way paging device; 2-way radio

Control Center: maps

Computer: billing; mailing list

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: N/A Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 1.01

Passengers/Vehicle-Mile: .08

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $3.00 /hour 9% fringe benefits

System Contact: Peter M. Schauer

OATS, Inc.

601 Bus Loop 70 W

Parkade Plaza

Columbia, Missouri

References Used: System documentation supplied by OATS, Inc.

Data year: 1977-78.

SYSTEM SUMMARY SHEETS

System Name: LTS Handi-Bus

Location: Lincoln, Nebraska

Organization: Sponsor: Lincoln Commission on Aging
Authority & Operator: Lincoln Transp. Service (city-owned)

Project History:

Institutional Issues:

System No. 102

Area Description

Population: 186,800

Service Area Pop.:

Target Group Pop.: 11,380

Service Area Size: 51 sq.mi.

Number of Zones:

Pop. Density of Service Area: 3663/sq. mi

Eligible Pop. Density 223/sq. mi

Service Area Type: City & county

Eligible Ridership: elderly & handicapped

Integrated with Fixed-Route System:

Supply

Service Type: mtom: peak/off-peak

Fares: Regular 30¢

Special

Vehicles in Service:

Peak: Off-Peak:

Hours of Service: 7 days/week

Annual Fleet Service Miles: 204,450

Annual Fleet Service Hours: 15,000

Number of Employees:

Drivers: Control Room: 1

Maintenance:

Demand

Weekday Ridership: 150 est. Peak:

Annual Ridership: 39,700

Person-Trips/1000 Residents: .80

Person-Trips/1000 Eligible Pop. 13.2

Person-Trips/Square Mile: 2.9

Person-Trips/Square Mile/Hour:

Trip Length:

Access

User: Phone

Pick-up Points: House

Access Time: Advance reserv. (24 hrs.)

Vehicles

#	Type	Capacity
1	small bus	20
2	van	11
4	van	6-9

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.6

Passengers/Vehicle-Mile: .19

Economics

Cost/Passenger Trip: $5.41

Revenue/Passenger Trip: $.31 ?

Cost/Vehicle-Hour: $14.31

Drivers' Salary: $ /hour

System Contact:

References Used: Wilbur Smith & Assoc., County-wide Transit Dependent study, 10-77.
Data Year: 1976

SYSTEM SUMMARY SHEETS

System Name: Senior Handibus

Location: Western Nebraska

System No. 103

Organization: Sponsor: Six Neb. cities; Authority: Neb. Dept. of Roads; Planner & Operator: Community for Senior Handibus committee

Project History:

Institutional Issues: Insurance and political response problems: high cost of insurance; local village councils funding service as county refuses to.

Area Description

Population: 6000

Service Area Pop.:

Target Group Pop.:

Service Area Size: 800 sq. mi

Number of Zones:

Pop. Density of Service Area: 8 /sq. mi

Eligible Pop. Density ___ /sq. mi

Service Area Type: County

Eligible Ridership: E & H, low income

Integrated with Fixed-Route System:

Supply

Service Type: M to O, M to F, M to M, Deviation from Route: off peak

Fares: Regular 2.50 to Lincoln, Special 2.00 to Beatrice, Fairbury 1.50 in county

Vehicles in Service: 1

Peak: ___ Off-Peak: 1

Hours of Service: mon. - Fri. 8am - 6pm

Annual Fleet Service Miles: 23,956

Annual Fleet Service Hours: 1,250

Number of Employees: 3

Drivers: 1 Control Room: 2

Maintenance: ___

Demand

Weekday Ridership: 7 Peak: ___

Annual Ridership: 1500

Person-Trips/1000 Residents: 1.2

Person-Trips/1000 Eligible Pop.:

Person-Trips/Square Mile: .01

Person-Trips/Square Mile/Hour: .001

Trip Length: 150 miles

Access

User: Phone

Pick-up Points: House, designated Points

Access Time: Adv. reserv. (1 hr.)

Vehicles

#	Type	Capacity
1	van	15

Special Features:

Communication/Dispatching

Mobile Communications: telephone

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 1.5 hrs. Promised Wait Time: 30 min.

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request): 10 min.

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 1.2

Passengers/Vehicle-Mile: .06

Economics

Cost/Passenger Trip: $ 5.77

Revenue/Passenger Trip: $ 2.10

Cost/Vehicle-Hour: $ 6.92

Drivers' Salary: $ 3.00 /hour

System Contact: Marlene Bartels
Senior Handibus
Western, Nebraska
68964

References Used: System documentation supplied by senior handibus manager. Data year: 7/76 to 6/77.

SYSTEM SUMMARY SHEETS

System Name: Call-A-Bus (demonstration)

Location: Syracuse, New York

Organization: Authority: Central New York Regional Transp. Authority; operator: CNY Centro Inc.

System No. 104

Project History: Demonstration period: Oct. 1973 to Oct 1975. In Dec. 1974, 7-day service restricted to 44-mile area: city of Syracuse + 3 suburbs; other areas of county to have service once a week resulting in expanded capacity by concentrating trips within smaller area. April 1975 added service for handicapped in wheelchairs.

Institutional Issues: minor problems with labor work rules and political response. Private wheelchair taxi co. concerned Call-A-Bus (subsidized) would adversely effect taxi business.

Area Description

Population: 472,835

Service Area Pop.: ____

Target Group Pop.: 56,681

Service Area Size: 794 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 596/sq. mi

Eligible Pop. Density 71 /sq. mi urbanized area, entire county

Service Area Type: ____

Eligible Ridership: E & H

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢

Special 60¢-1.00 trips outside city

Vehicles in Service: 5

Peak: ____ Off-Peak: ____

Hours of Service: mon-Fri. 6am-12pm; sat. 10am-6pm; sun. 8am-4pm

Annual Fleet Service Miles: 175,875

Annual Fleet Service Hours: 17,000

Number of Employees: ____

Drivers: 7 Control Room: 4

Maintenance: ____

Demand

Weekday Ridership: 140 est. Peak: ____

Annual Ridership: 51,048

Person-Trips/1000 Residents: .3

Person-Trips/1000 Eligible Pop.: 2.5

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .01

Trip Length: 4.3 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Adv. reserv. (48 hrs), subscription

Vehicles

#	Type	Capacity
4	small bus	8+2 wheelchrs
1	small bus	15
1	large bus	13+10 wheelchrs

Special Features: 5 with lifts

Communication/Dispatching

Mobile Communications: ____

Control Center: manually scheduled

Computer: no computer

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time):

Ride Time: ____ Promised Wait Time: ____

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: 3.0

Passengers/Vehicle-Mile: .29

Economics

Cost/Passenger Trip: $ 3.86

Revenue/Passenger Trip: $ .50

Cost/Vehicle-Hour: $ 11.59

Drivers' Salary: $5.60/hour 30% fringe benefits

System Contact: John Przepiora
Central N.Y. Reg'l Transp. Auth.
508 Midtown Plaza
Syracuse, New York
13120

References Used: System documentation supplied by Central N.Y. Regional Transp. Auth. and UMTA/TSC Service and Methods Demo. Program, 4-77.
Data Year: 4-76 to 3-77

SYSTEM SUMMARY SHEETS

System Name: West River Transportation Demonstration Program

System No. 105

Location: North Dakota - 6 county area

Organization: Sponsor: No. Dakota Highway Dept.; Planner: W.C. Gilman & Co.; Consultant: Technical Planning Info. Inc.; Operator: West River Transport. Council

Project History:

Institutional Issues: Severe insurance problem with rates ranging from $600 to over $2000 per year. Average rate is $1200. Some companies "will not accept these power wheelchair lift equipped buses at all."

Area Description

Population: 85,667

Service Area Pop.:

Target Group Pop.: 12,103 (elderly)

Service Area Size: 5,700 est.

Number of Zones:

Pop. Density of Service Area: 15 /sq. mi

Eligible Pop. Density: 2 /sq. mi

Service Area Type: rural

Eligible Ridership: elderly, handicapped, transp. deprived

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off-peak

Fares: Regular: Free

Special:

Vehicles in Service: 8

Peak: - Off-Peak: -

Hours of Service: varies widely

Annual Fleet Service Miles: 52,484

Annual Fleet Service Hours: 5,500

Number of Employees: 9

Drivers: 7 Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 208 est. Peak: ___

Annual Ridership: 54,000 est.

Person-Trips/1000 Residents: 2.4

Person-Trips/1000 Eligible Pop.: 17.2

Person-Trips/Square Mile: .04

Person-Trips/Square Mile/Hour: ___

Trip Length:

Access

User: Phone, fixed stops

Pick-up Points: House, mail, designated stops

Access Time:

Vehicles

#	Type	Capacity
9	van	12+2 w/chair
___	___	___
___	___	___

Special Features: 8 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time) varies widely

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 9.8

Passengers/Vehicle-Mile: 1.03

Economics

Cost/Passenger Trip: 1.35

Revenue/Passenger Trip: -

Cost/Vehicle-Hour: 13.23

Drivers' Salary: $2.75 /hour 9% fringe benefits

System Contact: David Thompson
Transportation Services
No. Dakota State Highway Dept.
Capitol Grounds
Bismarck, No. Dakota 58505

References Used: System documentation supplied by No. Dakota Highway Dept.
Data year: 6-77 to 6-78

SYSTEM SUMMARY SHEETS

System Name: Campus Bus Service

Location: Kent, Ohio

Organization: Sponsor: Kent State University
Authority: Portage Area Transit Auth. (PARTA)

System No. 106

Project History:

Institutional Issues: Insurance and funding problems: increase in insurance and company specified operating rules. Miror problems with labor and community response.

Area Description

Population: 25,000
Service Area Pop.
Target Group Pop. 75
Service Area Size: 3 sq.mi.
Number of Zones: 2
Pop. Density of Service Area. /sq. mi
Eligible Pop. Density 25 /sq. mi
Service Area Type: section of city
Eligible Ridership: Handicapped: wheel chair only
Integrated with Fixed-Route System: local fixed-route bus

Supply

Service Type: m to M: peak/off peak

Fares: Regular $1.05/mile zone fare
Special $16- for 3 months

Vehicles in Service: 2

Peak: Off-Peak:

Hours of Service: mon-Fri 7am-10pm
Sat. - 9am-6pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 26.5

Drivers: 25 Control Room: 1

Maintenance: .5

Demand

Weekday Ridership: 110 Peak:

Annual Ridership: 29,000 est.

Person-Trips/1000 Residents: 1966
Person-Trips/1000 Eligible Pop.
Person-Trips/Square Mile: 36.4

Person-Trips/Square Mile/Hour: 2.4

Trip Length: .8 miles

Access

User: Phone

Pick-up Points: house, designated points

Access Time: Adv. reserv. (½ hr), subscription

Vehicles

#	Type	Capacity
2		

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: computer

Computer: does vehicle assignment, route determination

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☑ Other

Service Levels (average time)

Ride Time: Promised Wait Time: 30 min.

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $2.65/hour

System Contact: J.F. Ala
(216) 672-2712

References Used: System documentation supplied by Kent State University
Data year: ?1977

SYSTEM SUMMARY SHEETS

System Name: DRUBS (discontinued)

Location: Kent State University, Kent, Ohio

Organization: Planner: Kent State
Operator: Office of Parking & Traffic

System No. 107

Project History:

Institutional Issues:

Area Description

Population: 25,000 (city)

Service Area Pop.

Target Group Pop. 105 households

Service Area Size: .75 sq.mi.

Number of Zones: 3

Pop. Density of Service Area: ___/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type: section of city

Eligible Ridership: Kent State: students, faculty, staff

Integrated with Fixed-Route System: local fixed-route bus

Supply

Service Type: M to O: Peak/ off-peak

Fares: Regular free

Special

Vehicles in Service: 1

Peak: ___ Off-Peak: ___

Hours of Service:

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: ___ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 55 Peak: ___

Annual Ridership: not avail.

Person-Trips/1000 Residents: ~

Person-Trips/1000 Eligible Pop. ___

Person-Trips/Square Mile: 68.8

Person-Trips/Square Mile/Hour: ___

Trip Length:

Access

User: Phone, terminal at stops

Pick-up Points: house

Access Time: Immed. service, subscription

Vehicles

#	Type	Capacity
1	small bus	

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center: electronic control system

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: ___ Promised Wait Time: ___

Actual Wait Time (immediate request): ___

Pick-Up Deviation (advanced request): ___

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $___/hour

System Contact:

References Used: System documentation supplied in: DRUBS Demand Routed Urban Bus Service Report sent by Kent State, Center for Urban Regionalism.
Data year: 1971

SYSTEM SUMMARY SHEETS

System Name: The Lift (demonstration)

System No. 108

Location: Portland, Oregon

Organization: Authority: Tri Met; Planners: Tri Met, City of Portland, Bur. of Human Resources; Operator: Tri Met; Consultant: DAVE Systems Inc.

Project History:
Demonstration to test automatic fare identification recorder, a computerized billing system for social serv. agencies; to coordinate special transp. services through contracts for service with public agencies and social service organizations.

Institutional Issues:
Dept. of HEW decided Lift fare structure permitted participation by state in a contract for LIFT service.

Area Description

Population: 400,000

Service Area Pop.

Target Group Pop. 21,000

Service Area Size: 89.1 sq.mi.

Number of Zones:

Pop. Density of Service Area: 4489 sq. mi

Eligible Pop. Density 236/sq. mi

Service Area Type: entire city

Eligible Ridership: E & H

Integrated with Fixed-Route System:

Supply

Service Type:

Fares: Regular 50¢

Special Free if agency sponsored

Vehicles in Service: 15

Peak: Off-Peak:

Hours of Service: mon-Fri 7am-7pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: Control Room: 5

Maintenance:

Demand

Weekday Ridership: 207 est. Peak:

Annual Ridership: 52,000 est.

Person-Trips/1000 Residents: .5

Person-Trips/1000 Eligible Pop. 9.9

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .02

Trip Length:

Access

User: Phone

Pick-up Points: house

Access Time: Adv. reserv. (24-48 hrs), subscription

Vehicles

#	Type	Capacity
15	small bus	16

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: manual scheduling, large wall map

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time):

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Dennis Chapman
Planning Dept. - TRI-MET
520 S.W. Yamhill
Portland, Oregon 97204

References Used: System documentation from material supplied by TRI-MET.
Data Year: 12-76 to 11-77

SYSTEM SUMMARY SHEETS

System Name: Carbon Co. minibus

Location: Carbon County, Penn.

Organization: Sponsor: Carbon Co. Action Committee

System No. 109

Project History:

Institutional Issues: minor insurance problem

Area Description

Population: 50,573

Service Area Pop. 50,573

Target Group Pop.

Service Area Size: 404 est. sq. mi.

Number of Zones: 5

Pop. Density of Service Area 125/sq. mi.

Eligible Pop. Density ____/sq. mi.

Service Area Type: entire county

Eligible Ridership: E & H, low income

Integrated with Fixed-Route System: no

Supply

Service Type: M to F: peak/ off-peak

Fares: Regular Free

Special

Vehicles in Service: 1

Peak: 1 Off-Peak: 1

Hours of Service: mon-Fri: 8:30 am - 4 pm

Annual Fleet Service Miles: 25,941

Annual Fleet Service Hours: 1,820

Number of Employees: 2

Drivers: 1 Control Room: 2

Maintenance: 0

Demand

Weekday Ridership: 21 est. Peak: ___

Annual Ridership: 5348

Person-Trips/1000 Residents: .4

Person-Trips/1000 Eligible Pop.: ___

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .02

Trip Length: 24 miles

Access

User: Phone

Pick-up Points:.

Access Time: Adv. reserv. (24 hrs)

Vehicles

#	Type	Capacity
1	van	10

Special Features:

Communication/Dispatching

Mobile Communications: telephone

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other CETA

Service Levels (average time)

Ride Time: 30 min. Promised Wait Time: 15 min.

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 2.9

Passengers/Vehicle-Mile: .21

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $3.50/hour

System Contact: Ronald Sliuka
Carbon Co. Action Comm.
61 Broadway
Jim Thorpe, Penn.
18229

References Used: System documentation supplied by Carbon Co. Action Committee.
Data year: 4/76 to 3/77.

SYSTEM SUMMARY SHEETS

System Name: Senior Citizen Transportation, Inc.

System No. 110

Location: Rhode Island

Organization: Sponsor: State Division on Aging; Authority: State Public Transit Authority; Operator: Sr. Citizens Transp., Inc. (private non-profit organization)

Project History: started in February 1973, and in Feb. 1974 centralized all transportation services instead of subcontracting with community action agencies. Results were increased ridership & reduced costs. Oct. 1976 began specialized service for handicapped.

Institutional Issues: Individual agencies were reluctant to share resources, took a long time to obtain FCC license and shared frequency made communication difficult.

Area Description

Population: 1,000,000

Service Area Pop.

Target Group Pop. 147,000 (elderly)

Service Area Size: 1049 sq.mi.

Number of Zones:

Pop. Density of Service Area: 953/sq. mi

Eligible Pop. Density 140/sq. mi

Service Area Type:

Eligible Ridership: elderly & handicapped only

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off peak

Fares: Regular Free

Special

Vehicles in Service: 45

Peak: Off-Peak:

Hours of Service: mon-Fri: 8:30am-4:30pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 60

Drivers: 44 Control Room: 9

Maintenance: 4 Admin. 3

Demand

Weekday Ridership: 1480 est. Peak:

Annual Ridership: 385,000 est.

Person-Trips/1000 Residents: 1.5

Person-Trips/1000 Eligible Pop: 10.1

Person-Trips/Square Mile: 1.6

Person-Trips/Square Mile/Hour: .2

Trip Length:

Access

User: Phone, fixed stops

Pick-up Points: House, designated points

Access Time: subscription adv. reservation (48 hrs.)

Vehicles

#	Type	Capacity
50	van	

Special Features: 8 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: magnetic map, no computer

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip: $1.63

Revenue/Passenger Trip: —

Cost/Vehicle-Hour:

Drivers' Salary: $3.60/hour

System Contact: Rhode Island Dept. of Community Affairs, Division on Aging, Providence, Rhode Island

References Used: System documentation from material supplied by Senior Citizen's Transportation, Inc. Data year: 7-76 to 6-77.

SYSTEM SUMMARY SHEETS

System Name: Austin Transit System

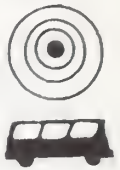
Location: Austin, Texas

Organization: Sponsor: City of Austin; Authority: American Transit Corp.; Operator: Austin Transit System

Project History: Began in 10-75 transporting Dept. of Public Welfare clients. 7-76 add Special Transit Service for transit limited & transit restricted.

Institutional Issues: no institutional problems

System No. 111



Area Description

Population: 308,000

Service Area Pop.

Target Group Pop. 15,000

Service Area Size: 360 sq.mi.

Number of Zones: -

Pop. Density of Service Area 856/sq. mi

Eligible Pop. Density 42/sq. mi

Service Area Type: urbanized area including rural & co.

Eligible Ridership: handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 5

Peak: Off-Peak:

Hours of Service: Mon-Fri 7am-10pm
Sat 12 noon - midnight
Sun 9am-9pm

Annual Fleet Service Miles: 239,817

Annual Fleet Service Hours: -

Number of Employees: 11

Drivers: 9 Control Room: 2

Maintenance: -

Demand

Weekday Ridership: 150 Peak: 80

Annual Ridership: 26831

Person-Trips/1000 Residents: .5
Person-Trips/1000 Eligible Pop. 10

Person-Trips/Square Mile: .4

Person-Trips/Square Mile/Hour: .03

Trip Length: 4 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Adv. reserv. (24 hrs), subscription

Vehicles

#	Type	Capacity
2	van	5+4 wheelchrs
3	van	4+3 wheelchrs

Special Features: 5 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer: no computer

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: - Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 20 min.

Pick-Up Deviation (advanced request): 0

Transfer Time: -

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile: 3.13

Economics

Cost/Passenger Trip: $ .34

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ 5- /hour 16% fringe benefits

System Contact: Patrick Collins
Austin Transit System
P.O. Box 1943
Austin, Texas 78767

References Used: system documentation supplied by Austin Transit System.
Data year: 10-76 to 9-77

System Name: Pick-me-up

System No. 112

Location: Houston, Texas

Organization: Sponsor & Planner: City of Houston, Office of Public Transp.; Operator: Houtran Inc.

Project History: System result of pressure from handicapped community. Plans in formative stage for a transportation broker "to capture & supplement existing paratransit services."

Institutional Issues: minor labor problems

Area Description

Population: 1,232,802

Service Area Pop.: ?

Target Group Pop.: ?

Service Area Size: 35 sq.mi.

Number of Zones:

Pop. Density of Service Area: ___/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type: section of city

Eligible Ridership: E & H

Integrated with Fixed-Route System: no

Supply

Service Type: M to F: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 5

Peak: ___ Off-Peak: ___

Hours of Service: mon-Fri 8am-10pm
sat-sun 10am-10pm

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 10

Drivers: 6 Control Room: 2

Maintenance: ___ monitor & evaluate 2

Demand

Weekday Ridership: 40 Peak: 30

Annual Ridership: not avail.

Person-Trips/1000 Residents: ___

Person-Trips/1000 Eligible Pop.: ___

Person-Trips/Square Mile: 1.1

Person-Trips/Square Mile/Hour: .08

Trip Length: 4 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Adv. reserv. (48 hrs), subscription

Vehicles

#	Type	Capacity
6	small bus	10+3 wheelchrs

Special Features: 6 with lifts

Communication/Dispatching

Mobile Communications: telephone

Control Center: manual routing & scheduling

Computer:

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 30 min Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 5 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip: $ .50

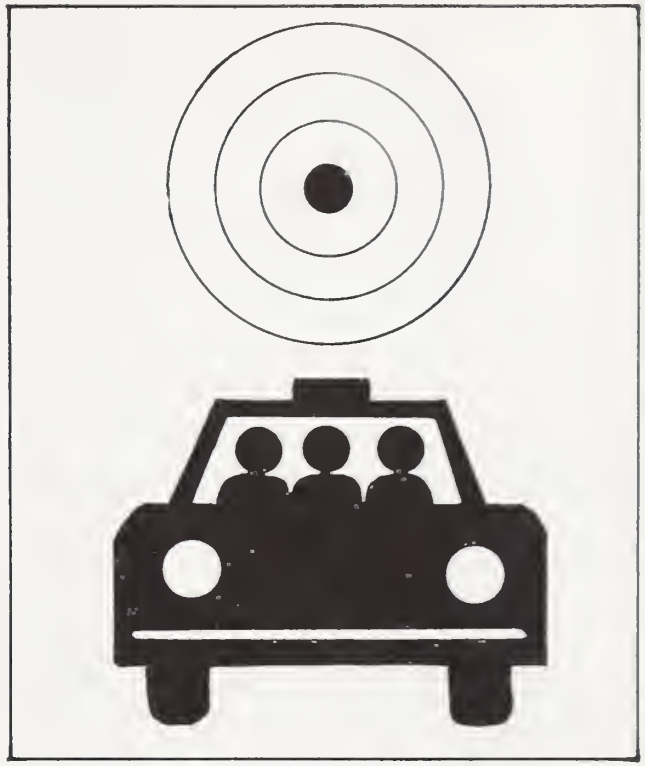
Cost/Vehicle-Hour:

Drivers' Salary: $6.08 /hour 25% Fringe benefits

System Contact: David Warren
Office of Public Transp.
City of Houston
P.O. Box 1562
Houston, Texas
77002

References Used: System documentation supplied by City of Houston, Office of Public Transp.
Data year: start of service 11-16-77

SYSTEM SUMMARY SHEETS



Target Market Shared Ride Taxi

System Name: Senior Citizen Taxi Service

Location: Fremont, California

Organization: Sponsor: Alameda County; Operator: Tri-City Cab Co.

Project History: City obtains Federal Older American Act monies from county; pays taxi co. on a contractural basis.

Institutional Issues:

System No. 113

Area Description

Population: 121,000

Service Area Pop.

Target Group Pop. ?

Service Area Size: 94 sq.mi.

Number of Zones:

Pop. Density of Service Area: 1287/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type: entire city

Eligible Ridership: elderly

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢

Special

Vehicles in Service: 1

Peak: Off-Peak:

Hours of Service: Mon.-Fri. 6am-6pm
Sat & Sun: 6am-1

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: 1 Control Room: 2

Maintenance: 0

Demand

Weekday Ridership: 14 est. Peak:

Annual Ridership: 3600

Person-Trips/1000 Residents: .12

Person-Trips/1000 Eligible Pop.

Person-Trips/Square Mile: .2

Person-Trips/Square Mile/Hour: .01

Trip Length: 3 miles

Access

User: Phone

Pick-up Points: House

Access Time: Adv. reserv. (24 hrs.)

Vehicles

#	Type	Capacity
1	cab	4

Special Features: none

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer:

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 15 min Promised Wait Time:

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ ___/hour

System Contact: Pam McCann
Program Sources Co-ordr for Aging
City of Fremont
Fremont, Calif. 94538

References Used: System documentation supplied by City of Fremont
Data Year: 1977

SYSTEM SUMMARY SHEETS

System Name: DIAL-A-RIDE

Location: Huntington Park, California

Organization: Sponsor: City of Huntington Park
Operator: All American Cab Co.

System No. 114

Project History:

Institutional Issues:

Area Description

Population: 33,744

Service Area Pop. 33,744

Target Group Pop.

Service Area Size: 3 sq. mi.

Number of Zones:

Pop. Density of Service Area 11248/sq. mi

Eligible Pop. Density ___/sq. mi

Service Area Type: entire city

Eligible Ridership: E & H

Integrated with Fixed-Route System:

Supply

Service Type: m to m: peak/off peak

Fares: Regular 50¢

Special 25¢ E+H children

Vehicles in Service: 3

Peak: ___ Off-Peak: ___

Hours of Service: mon-Sat 9am-6pm
Sun. 8am-2pm

Annual Fleet Service Miles: 75,340

Annual Fleet Service Hours: 8287

Number of Employees:

Drivers: ___ Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 155 Peak: ___

Annual Ridership: 56,479 est.

Person-Trips/1000 Residents: 4.6

Person-Trips/1000 Eligible Pop. ___

Person-Trips/Square Mile: 51.7

Person-Trips/Square Mile/Hour: 5.7

Trip Length: 1.5 miles

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
1	van	12
2	van	15

Special Features: no lifts

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: ___ Promised Wait Time: ___

Actual Wait Time (immediate request): 25 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.8

Passengers/Vehicle-Mile: .75

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $3.30/hour

System Contact:

References Used: system documentation from: So. Calif. Ass'n of Gov'ts statistics and Calif. DOT, Transguide, SOA 2.46

Data Year: 75-76

SYSTEM SUMMARY SHEETS

System Name: Subsidized Taxi Service for Elderly

Location: Lafayette, California

Organization: Sponsor: City of Lafayette; Operators: Checker Cab, Blue Cab

Project History: Service started in 1974. In 1978 a $300 per person limit on coupon books per year for trips was initiated plus a 30 mile trip limit as it was felt some elderly were overusing the system.

Institutional Issues: Elderly unhappy, repatedly, with limitation. Checker Cab to discontinue service 10/'78 - felt business was cut back by ceiling of $300.

System No. 115

Area Description

Population: 20,000

Service Area Pop.: ____

Target Group Pop.: ?

Service Area Size: 49 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 408/sq. mi

Eligible Pop. Density ____/sq. mi

Service Area Type: suburban area

Eligible Ridership: elderly

Integraced with Fixed-Route System: no

Supply

Service Type: M to M: peak/off-peak

Fares: Regular (metered zones, coupon books)

Special ____

Vehicles in Service: 3

Peak: 3 Off-Peak: 2

Hours of Service: Mon-Fri 6am-6pm Sat.: appt only

Annual Fleet Service Miles: ____

Annual Fleet Service Hours: ____

Number of Employees: ____

Drivers: 4* Control Room: 2

Maintenance: ____ * two cab companies

Demand

Weekday Ridership: 32 Peak: ____

Annual Ridership: 10,000 est.

Person-Trips/1000 Residents: 1.6

Person-Trips/1000 Eligible Pop. ____

Person-Trips/Square Mile: .6

Person-Trips/Square Mile/Hour: .05

Trip Length: .5

Access

User: Phone

Pick-up Points: House

Access Time: Immed., adv. reservation (24 hr.)

Vehicles

#	Type	Capacity
4	Cab	4
____	____	____
____	____	____

Special Features: ____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: ____

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 15-30 min. Promised Wait Time: 5-10 min.

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: ____

Passengers/Vehicle-Mile: ____

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: E.C. Mariner
City manager
City of Lafayette
975 Oakland St.
Lafayette, Calif. 94549

References Used: system documentation supplied by City of Lafayette and cab companies Data Year: '77-'78

SYSTEM SUMMARY SHEETS

System Name: Our Car

Location: Marysville, Yuba City, California

Organization: Authority & Planner: HUB Area Transit Auth.
Operator: Yellow Cab Co.

Project History:

System No. 116

Area Description

Population: 52,763

Service Area Pop.:

Target Group Pop.: 7,041

Service Area Size: 22 sq.mi

Number of Zones:

Pop. Density of Service Area: 2373 sq. mi

Eligible Pop Density: 320/sq. mi

Service Area Type: 2 cities

Eligible Ridership: E&H

Integrated with Fixed-Route System: no

Institutional Issues: Problems with insurance, political response, funding, licensing. Politicians did not feel there were transit needs in the area." Threat of suit and pressure of senior citizens helped promote existing service; major concern is loss of local funds (SB325) to street and road projects.

Supply

Service Type: M to M, M to F, M to O: peak / off peak

Fares: Regular 50¢ for rider; cab

Special uses meter - city reimburses cab for difference

Vehicles in Service: 15

Peak: _____ Off-Peak: _____

Hours of Service: Mon-Fri 8am-5pm Sat 9am-3pm Sun 8am-3pm

Annual Fleet Service Miles: 148,867

Annual Fleet Service Hours: 45,240

Number of Employees: 20 (taxi)

Drivers: 15 Control Room: 3

Maintenance: 2

Demand

Weekday Ridership: 285 Peak:

Annual Ridership: 86,435

Person-Trips/1000 Residents: 5.4

Person-Trips/1000 Eligible Pop. 40.5

Person-Trips/Square Mile: 15.0

Person-Trips/Square Mile/Hour: 1.4

Trip Length: 3.8

Access

User: Phone

Pick-up Points: House

Access Time: Immed. service, Adv. reservation (24 hr.)

Vehicles

#	Type	Capacity
9	cab	5
2	van	8
4	stn. wagon	8

Special Features: 2 vans have lifts

Communication/Dispatching

Mobile Communications: telephone, 2-way radio

Control Center: manual dispatch

Computer: no computer

Labor

Union ☐ Non-Union ☑ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: N/A Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 45 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 1.9

Passengers/Vehicle-Mile: .58

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Pat Weston
HUB Area Transit Authority
(916) 742-9226

References Used: System documentation supplied by: HUB Area Transit Authority
Data year: 1977

SYSTEM SUMMARY SHEETS

System Name: Project Mobility

Location: Palo Alto, California

Organization: Sponsor & Planner: City of Palo Alto
Operator: Palo Alto - Menlo Park Yellow Cab

Project History: Limited enrollment to lower income applicants in 12-75. Approximately 150 riders were no longer eligible for service; growth rate was slowed down.

Institutional Issues: minor problem with funding; would like County Transit District to pay for part of service

System No. 117

Area Description

Population: 61,683

Service Area Pop. ____

Target Group Pop. 1500-3000

Service Area Size: 25.7 sq.mi.

Number of Zones: ____

Pop. Density of Service Area 2400/sq. mi

Eligible Pop. Density 88/sq. mi

Service Area Type: entire city

Eligible Ridership: low income E&H

Integrated with Fixed-Route System: ____

Supply

Service Type: M to M: Peak/Off Peak

Fares: Regular $1.00 - 1st 1/5 mile; .20 - each additional 1/5 mi.

Special none

Vehicles in Service: 24

Peak: 16 Off-Peak: 16-5

Hours of Service: 7 days/week, 24 hours

Annual Fleet Service Miles: 44,614

Annual Fleet Service Hours: no record

Number of Employees:

Drivers: 40 Control Room: ___

Maintenance: ___

Demand

Weekday Ridership: 60 Peak: ___

Annual Ridership: 22,000

Person-Trips/1000 Residents: 1.0

Person-Trips/1000 Eligible Pop. 26.7

Person-Trips/Square Mile: 2.3

Person-Trips/Square Mile/Hour: .1

Trip Length: 2 miles

Access

User: Phone

Pick-up Points: House, designated Points

Access Time: Immed. service

Vehicles

#	Type	Capacity
24	Cab	4
___	___	___
___	___	___

Special Features: ____

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: ____

Computer: ____

Labor

Union ☒ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: ____ Promised Wait Time: 15 min.

Actual Wait Time (immediate request): 15 min.

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: ____

Passengers/Vehicle-Mile: .49

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: $ .50

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: Jan Thompson
City of Palo Alto
250 Hamilton Ave.
Palo Alto, Calif. 94301

References Used: System documentation supplied by City of Palo Alto
Data Year: 7-76 to 7-77

SYSTEM SUMMARY SHEETS

System Name: (subsidized taxi service)

System No. 118

Location: San Leandro, California

Organization: Sponsor: Alameda Co. Area Agency on Aging; Authority/Planner: San Leandro Dept. of Human Resources; Operator: Veterans Yellow Cab of Hayward

Project History:

Institutional Issues: problems with insurance and funding.

Area Description

Population: 68,600

Service Area Pop.:

Target Group Pop.: 3,000

Service Area Size: 15 sq. mi.

Number of Zones: -

Pop. Density of Service Area: 4573/sq. mi

Eligible Pop Density: 200/sq. mi

Service Area Type: entire city

Eligible Ridership: Elderly

Integrated with Fixed-Route System: no

Supply

Service Type: M to F: peak/off peak

Fares: Regular meter rate

Special

Vehicles in Service: 32

Peak: Off-Peak:

Hours of Service: mon-sun 24 hrs.

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees: 3 plus drivers

Drivers: Control Room:

Maintenance:

Demand

Weekday Ridership: 31 Peak:

Annual Ridership: 9,340

Person-Trips/1000 Residents: .45

Person-Trips/1000 Eligible Pop: 10.3

Person-Trips/Square Mile: 2.1

Person-Trips/Square Mile/Hour: .1

Trip Length: 2 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time: Immed. service

Vehicles

#	Type	Capacity
32	cab	5

Special Features:

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other Independent union

Service Levels (average time)

Ride Time: unknown Promised Wait Time: 15 min.

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact: Jim O'Leary
City of San Leandro
835 E. 14th St.
San Leandro, Calif.
94577

References Used: system documentation supplied by City of San Leandro
Data year: 6-76 to 5-77

SYSTEM SUMMARY SHEETS

System Name: Phone-A-Ride

Location: South Gate, California

Organization: Authority & Planner: City of South Gate
Operator: Southeast Taxi Co.; Consultant: Mark Briggs & Associates

Project History:

Institutional Issues: minor problems with funding, regulations and labor were reduced & eliminated when city contracted with the taxi co. to provide the service.

System No. 119

Area Description

Population: 59,921

Service Area Pop.:

Target Group Pop.:

Service Area Size: 7.5 sq.mi.

Number of Zones:

Pop. Density of Service Area: 7989/sq. mi

Eligible Pop. Density ____/sq. mi

Service Area Type: entire city

Eligible Ridership: All

Integrated with Fixed-Route System: no

Supply

Service Type: M to M: peak/off peak

Fares: Regular 25¢

Special

Vehicles in Service: 1

Peak: ____ Off-Peak: ____

Hours of Service: mon-Fri 9am-5pm

Annual Fleet Service Miles: 39,900

Annual Fleet Service Hours: 2048

Number of Employees:

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 50 Peak: ____

Annual Ridership: 13,734

Person-Trips/1000 Residents: .8

Person-Trips/1000 Eligible Pop.: ____

Person-Trips/Square Mile: 6.7

Person-Trips/Square Mile/Hour: .8

Trip Length:

Access

User: Phone, mail

Pick-up Points: House

Access Time: Immed. service

Vehicles

#	Type	Capacity
1	van	10

Special Features: no lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 20 min Promised Wait Time: 30 min.

Actual Wait Time (immediate request): 30 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 6.7

Passengers/Vehicle-Mile: .34

Economics

Cost/Passenger Trip: 2.11

Revenue/Passenger Trip: .22

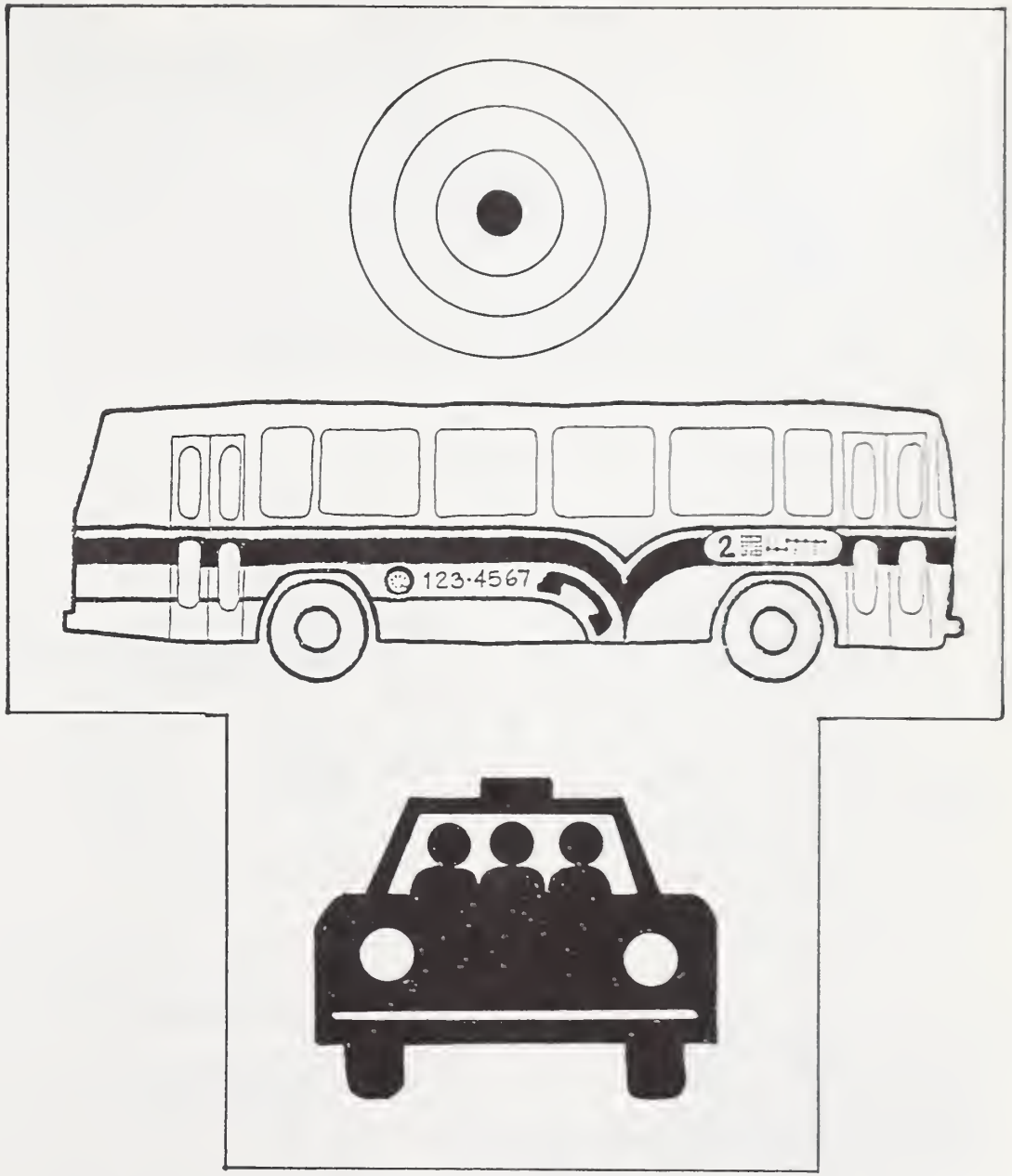
Cost/Vehicle-Hour: 14.16

Drivers' Salary: $____/hour

System Contact: Miquel Sanchez
City of South Gate
8650 California Ave.
South Gate, Calif.
90280

References Used: system documentation from the City of South Gate.
Data Year: 8-76 to 7-77

SYSTEM SUMMARY SHEETS



Target Market Mixed Systems

System Name: Special Transportation Service (STS)

System No. 120

Location: Dade County, Florida

Organization: Sponsor: Dade Co.; Planner: STS Project Office; Operators: 2 private taxi co.; 1 van service

Project History: Began in June 1976. March 1977 voucher sales were limited to 16 reservation & 40 subscrip. trips. Users could purchase add'l vouchers at higher cost ($3/trip). This step limited amount of user travel and decreased system costs.

Institutional Issues: minor problems with funding, legal/regulatory issues, & permits/licensing.

Area Description

Population: 1,500,000

Service Area Pop.: ____

Target Group Pop.: 5,200

Service Area Size: 2042 sq.mi.

Number of Zones: ____

Pop. Density of Service Area: 735/sq. mi

Eligible Pop. Density 2.6/sq. mi

Service Area Type: urbanized area, entire county

Eligible Ridership: handicapped

Integrated with Fixed-Route System: no

Supply

Service Type: m to m: peak/off-peak

Fares: Regular 1st prepaid voucher

Special 3rd add'l vouchers

Vehicles in Service: ____

Peak: ____ Off-Peak: ____

Hours of Service: mon-sun 6am - midnight

Annual Fleet Service Miles: 507,360

Annual Fleet Service Hours: ____

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership: 300 Peak: ____

Annual Ridership: 67,700 est.

Person-Trips/1000 Residents: .2

Person-Trips/1000 Eligible Pop.: 57.7

Person-Trips/Square Mile: .15

Person-Trips/Square Mile/Hour: .01

Trip Length: 9.7 miles

Access

User: Phone

Pick-up Points: house, designated points

Access Time: Adv. reserv. (12 hrs), subscription

Vehicles

#	Type	Capacity
___	van	___
___	cab	___
___	___	___

Special Features: ____

Communication/Dispatching

Mobile Communications: telephone

Control Center: ____

Computer: ____

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: ____ Promised Wait Time: 15 min.

Actual Wait Time (immediate request): ____

Pick-Up Deviation (advanced request): ____

Transfer Time: ____

Productivity

Passengers/Vehicle-Hour: ____

Passengers/Vehicle-Mile: .13

Economics

Cost/Passenger Trip: $9.58

Revenue/Passenger Trip: $1.00

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: ____

References Used: system documentation from report: Silverman & LaPlant, Use of Taxicabs for Transporting the Handicapped: The Dade Co. Experience. Data Years: 6-76 to 6-77.

SYSTEM SUMMARY SHEETS

System Name: Community Responsive Transit (CRT)

System No. 121

Location: Cuyahoga County, Ohio

Organization: Authority & Planner: CRT, a department of Greater Cleveland Regional Transit Auth. Operator: CRT & Yellow Cab Co.

Project History: Service initiation in 7/76 in 3 service areas; 10-76 add 3 contract service areas (Yellow Cab); 11-76 add 2 in-house & 2 contract areas; 8-77 add 1 in-house area; 8-77 implement computer-assisted scheduling system; and 9-77 implement 6 more contract areas

Institutional Issues: Yellow Cab had minor problem obtaining insurance. Minor problems for CRT with labor, community & political response.

Area Description

Population: 1,592,613

Service Area Pop.: _____

Target Group Pop.: 170,000

Service Area Size: 450 sq. mi

Number of Zones: 17

Pop. Density of Service Area: 3539/sq. mi

Eligible Pop. Density: 378/sq. mi

Service Area Type: entire county

Eligible Ridership: E & H

Integrated with Fixed-Route System: no

Supply

Service Type: M to F: off peak
M to M: off peak

Fares: Regular free

Special: _____

Vehicles in Service: 64 in-house & contract

Peak: _____ Off-Peak: _____

Hours of Service: Mon-Fri 9am-5pm
Sun. - 8:30am-2:30pm

Annual Fleet Service Miles: 950,000

Annual Fleet Service Hours: 49,000

Number of Employees: 58+

Drivers: 44 Control Room: 10

Maintenance: Admin.: 4 + does not include contractor staff

Demand

Weekday Ridership: 700 Peak: _____

Annual Ridership: 203,125

Person-Trips/1000 Residents: .4

Person-Trips/1000 Eligible Pop.: 4.1

Person-Trips/Square Mile: 1.6

Person-Trips/Square Mile/Hour: .2

Trip Length: _____

Access

User: Phone

Pick-up Points: House

Access Time: Advance reserv. (24 hr) subscription

Vehicles

#	Type	Capacity
3	small buses	18
2	small buses	12+2 wheel chr.
2	van	7+1 wheel chr.
27	small buses	15
15	small buses	18
15	cabs	7

Special Features: 23 with lifts

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: dedicated computer

Computer: does address location, mgmt. info., show each vehicle run with scheduled rides.

Labor

Union ☑ Non-Union ☐ Volunteer ☐

Part-time ☐ Other _____

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time: 15 min.

Actual Wait Time (immediate request): _____

Pick-Up Deviation (advanced request): 5 min.

Transfer Time: N/A

Productivity

Passengers/Vehicle-Hour: 4.1

Passengers/Vehicle-Mile: .21

Economics

Cost/Passenger Trip: 4.38

Revenue/Passenger Trip: _____

Cost/Vehicle-Hour: 18.16

Drivers' Salary: $5.12/hour 25% fringe benefits

System Contact: J. R. Groth / L. Green
Greater Cleveland Reg'l Transit Auth.
Community Responsive Transit Dept.
1404 E 9th St.
Cleveland, Ohio 44144

References Used: System documentation supplied by CRT, Cleveland, Ohio.
Data Year: 12-76 to 12-77

SYSTEM SUMMARY SHEETS

Canadian Systems

System Name: DART

Location: Calgary, Alberta

Organization: Sponsor: Ministry of Transport & Comm. (MTC), Alberta
Operator: City of Calgary

Project History: Started in Dec. 1973; changed to full day service in Mar. 1974. Begun in S.W. corner of city, a 6th zone was added in Mar. 1977; a 7th to be added in Dec. 1977.

Institutional Issues:

System No. 122

Area Description

Population: 470,000

Service Area Pop. 15,000

Target Group Pop.

Service Area Size: 3 sq.mi.

Number of Zones: 6

Pop. Density of Service Area 5000/sq. mi

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to line-haul bus

Supply

Service Type: m to O

Fares: Regular 45¢ (35¢ + 10¢ premium)
Special

Vehicles in Service: 15

Peak: 6 Off-Peak: 3

Hours of Service:
mon – sun:

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: ____ Control Room: ___

Maintenance: ____

Demand

Weekday Ridership: 1100 est. Peak: ___

Annual Ridership: 343,161

Person-Trips/1000 Residents: 73.3

Person-Trips/Square Mile: 366.7

Person-Trips/Square Mile/Hour: ____

Trip Length:

Access

User: Phone, hail

Pick-up Points:

Access Time: subscription

Vehicles

#	Type	Capacity
15		
___		
___		

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer: Dispatching (testing)

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: _____ Promised Wait Time: _____

Actual Wait Time (immediate request):

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 13.5

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $_____/hour

System Contact: D.M. Calver
City of Calgary Trans. Dept.
P.O. Box 2100
Calgary, Alberta T2P 2M5

References Used: System documentation supplied by City of Calgary; Calgary Paratransit Project, Oct. 1977 and report on Canadian Paratransit by Suen and Lehnen of Transport Canada, Nov. 1977. Data Year: 1976

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Bus

Location: Bay Ridges, Ontario

Organization: Sponsor: Ministry of Transport & Comm. (MTC), Ontario
Operator: City of Pickering

Project History: Service began in July 1970; expanded in 1973 to include most of the city

Institutional Issues:

System No. 123

Area Description

Population:
Service Area Pop. 23,650
Target Group Pop.
Service Area Size: 12 sq.mi
Number of Zones:
Pop. Density of Service Area: 1971 /sq. mi
Service Area Type: entire city
Eligible Ridership: All
Integrated with Fixed-Route System: feeder to train

Supply

Service Type: M to F: peak

Fares: Regular 50¢
Special

Vehicles in Service:
Peak: 9 Off-Peak: 5

Hours of Service:

Annual Fleet Service Miles:
Annual Fleet Service Hours:
Number of Employees:
Drivers: 25 Control Room:
Maintenance:

Demand

Weekday Ridership: 1500 est. Peak:
Annual Ridership: 389,660
Person-Trips/1000 Residents: 63.4
Person-Trips/Square Mile: 125.0
Person-Trips/Square Mile/Hour:
Trip Length:

Access

User: Phone

Pick-up Points:

Access Time: Immediate, subscrip.

Vehicles (1974 data)

#	Type	Capacity
3	small bus	17
5	small bus	12
6	small bus	11

Special Features:

Communication/Dispatching

Mobile Communications: radio

Control Center:

Computer:

Labor

Union ☑ Non-Union ☐ Volunteer ☐
Part-time ☑ Other

Service Levels (average time)

Ride Time: Promised Wait Time:

Actual Wait Time (immediate request):
Pick-Up Deviation (advanced request):
Transfer Time:

Productivity

Passengers/Vehicle-Hour: 11.8
Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip:
Revenue/Passenger Trip:
Cost/Vehicle-Hour:
Drivers' Salary: $ /hour
System Contact:

SYSTEM SUMMARY SHEETS

References Used: System documentation from report by Suen and Lehuen, Urban Transp. Research Branch, CSTA Transport Canada, Nov. 1977. Data year: ?1976.

System Name: Dial-A-Bus

Location: Burlington, Ontario

Organization: Sponsor: ministry of Transport + Comm (MTC) Ontario
Operator: City of Burlington

Project History: service begun in may 1974; high ridership (154,000/year in 1976) may mean future expansion or replacement with fixed-route service.*

Institutional Issues:

System No. 124

Area Description

Population:

Service Area Pop. 10,890

Target Group Pop.

Service Area Size: 6 sq.mi.

Number of Zones: 3

Pop. Density of Service Area: 1815 sq. mi

Service Area Type: residential area of city

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to line-haul bus

Supply

Service Type: m to 0: peak/off peak

Fares: Regular 40¢

Special rates for E+H, students

Vehicles in Service: 3

Peak: 3 Off-Peak: 3

Hours of Service: mon.-sat.: 6am-11pm

Annual Fleet Service Miles: 93,600 est.

Annual Fleet Service Hours: 15,900 est.

Number of Employees:

Drivers: 3/shift Control Room: 2+

Maintenance: 1

Demand

Weekday Ridership: 457 Peak:

Annual Ridership: 130,000 est.

Person-Trips/1000 Residents: 42.0

Person-Trips/Square Mile: 76.2

Person-Trips/Square Mile/Hour: 4.5

Trip Length:

Access

User: Phone

Pick-up Points:

Access Time:

Vehicles

#	Type	Capacity
6		

Special Features: 1 special van for wheelchairs

Communication/Dispatching

Mobile Communications: radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 14 min. Promised Wait Time:

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request):

Transfer Time: 30 min.

Productivity

Passengers/Vehicle-Hour: 8.2

Passengers/Vehicle-Mile: 1.39

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

SYSTEM SUMMARY SHEETS

References Used: Lea Transit Compendium, Para-Transit, Vol. 11 #8, 1975; *report by Suen and Lehuen, Urban Transp. Research Branch, CSTA Transport Canada, Nov. 1977. Data year: ?74-75

System Name: Dial-A-Bus - discontinued

System No. 125

Location: Cambridge, Ontario

Organization: Sponsor: Ministry of Transport Canada; Ministry of Highways & Transport, Alberta; Operator: City of Cambridge

Project History: started in may 1974; replaced by fixed-route in 1976 because of high demand & flexible service too costly. Ridership: 161,889 in 1975.*

Institutional Issues:

Area Description

Population:

Service Area Pop. 24,346*

Target Group Pop.

Service Area Size: 8 sq. mi

Number of Zones: 6

Pop. Density of Service Area 3043 sq. mi

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to line-haul bus

Supply

Service Type: m to O: peak / off peak

Fares: Regular 40¢

Special 20¢ Exit; 10¢ students

Vehicles in Service: 5

Peak: 5 Off-Peak: 5

Hours of Service: mon-Sat.: 7:30am-6:30pm

Annual Fleet Service Miles: 171,600 est.

Annual Fleet Service Hours: 17,160 est.

Number of Employees:

Drivers: 9 Control Room: 3+

Maintenance: 1

Demand

Weekday Ridership: 548 Peak:

Annual Ridership: 156,000 est.

Person-Trips/1000 Residents: 22.5

Person-Trips/Square Mile: 68.5

Person-Trips/Square Mile/Hour: 6.2

Trip Length: 5 miles

Access

User: Phone

Pick-up Points: House, designated points

Access Time:

Vehicles

#	Type	Capacity
6		
—		
—		

Special Features:

Communication/Dispatching

Mobile Communications: radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 13 min Promised Wait Time:

Actual Wait Time (immediate request): 25 min.

Pick-Up Deviation (advanced request):

Transfer Time: 25 min.

Productivity

Passengers/Vehicle-Hour: 9.0

Passengers/Vehicle-Mile: .91

Economics

Cost/Passenger Trip:

Revenue/Passenger Trip:

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

SYSTEM SUMMARY SHEETS

References Used: Lea Transit Compendium, Para-Transit, Vol. 11 #8, 1975; * report by Suen and Lehuen, Urban Transp. Research Branch, CSTA Transport Canada, Nov. 1977. Data year: ? 74-75.

System Name: Kitchener Transit

Location: Kitchener, Ontario

Organization: Sponsor: Ministry of Transport & Comm. (MTC), Ontario
Operator: City of Kitchener

Project History: Began service in October 1974; experienced a 3-month transit strike in 1975.

Institutional Issues: minor problems with labor contracts & rules.

System No. 126

Area Description

Population: 111,800

Service Area Pop. 11,000

Target Group Pop. ____

Service Area Size: 4.2 sq.mi.

Number of Zones: 3

Pop. Density of Service Area: 2619/sq. mi

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to fixed-route bus

Supply

Service Type: m to m
m to o

Fares: Regular 45¢ + 10¢ premium
Special 25¢ seniors & children

Vehicles in Service: 3

Peak: 3 Off-Peak: 3

Hours of Service:
mon.-sat.: 6am-midnight

Annual Fleet Service Miles: 178,610

Annual Fleet Service Hours: 14,352

Number of Employees: 10

Drivers: 7 Control Room: 3

Maintenance: ____

Demand

Weekday Ridership: 700 Peak: 330

Annual Ridership: 138,000

Person-Trips/1000 Residents: 63.6

Person-Trips/Square Mile: 166.7

Person-Trips/Square Mile/Hour: 9.3

Trip Length: 5 miles

Access

User: Phone

Pick-up Points: House, shopping center, designated points

Access Time: Adv. reservation (30 min)

Vehicles

#	Type	Capacity
3	small bus	18
___	___	___
___	___	___

Special Features: none

Communication/Dispatching

Mobile Communications: 2-way radio

Control Center: no computer

Computer: ____

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☑ Other CBRT

Service Levels (average time)

Ride Time: 17 min. Promised Wait Time: 20 min.

Actual Wait Time (immediate request): 15 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: 8 min.

Productivity

Passengers/Vehicle-Hour: 9.6

Passengers/Vehicle-Mile: .77

Economics

Cost/Passenger Trip: $ 2.82

Revenue/Passenger Trip: $ .39

Cost/Vehicle-Hour: $ 27.10

Drivers' Salary: $ 6.87 /hour 36% fringe benefits

System Contact: W.R. Dawson
City of Kitchener
P.O. Box 1118
Kitchener, Ontario
N2G 4G7

References Used: System documentation supplied by City of Kitchener.
Data year: 1976-77.

SYSTEM SUMMARY SHEETS

System Name: Dial-A-Bus - discontinued

Location: York Mills (Toronto), Ontario

Organization: Sponsor: Ministry of Transport & Comm., Ontario; Operator: City of Toronto

Project History: System started in Oct. 1973, abandoned in 1976 due to high costs & poor patronage*

Institutional Issues:

System No. 127

Area Description

Population: 150,300

Service Area Pop. 20,800

Target Group Pop.

Service Area Size: 3.43 sq.mi.

Number of Zones: 3

Pop. Density of Service Area 6064/sq. mi

Service Area Type:

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to line-haul bus

Supply

Service Type: mtoO: peak
mtoF: off peak

Fares: Regular 50¢

Special 30¢ students, 20¢ children

Vehicles in Service: 8

Peak: 8 Off-Peak: 6

Hours of Service: mon.-Fri. 6:30am - 10:30pm

Annual Fleet Service Miles: 325,000 est.

Annual Fleet Service Hours: 31,980 est.

Number of Employees:

Drivers: 16 Control Room: 8

Maintenance: 1-2

Demand

Weekday Ridership: 1350 Peak:

Annual Ridership: 351,000 est.

Person-Trips/1000 Residents: 64.9

Person-Trips/Square Mile: 393.6

Person-Trips/Square Mile/Hour: 24.6

Trip Length: 3.3 miles

Access

User: Phone

Pick-up Points: House, designated points.

Access Time:

Vehicles

#	Type	Capacity
8	vans	

Special Features:

Communication/Dispatching

Mobile Communications:

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 15 min. Promised Wait Time:

Actual Wait Time (immediate request): 12 min.

Pick-Up Deviation (advanced request):

Transfer Time:

Productivity

Passengers/Vehicle-Hour: 11.0

Passengers/Vehicle-Mile: 1.08

Economics

Cost/Passenger Trip: $1.51

Revenue/Passenger Trip: $.41

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

SYSTEM SUMMARY SHEETS

References Used: Lea Transit Compendium, Para-Transit, Vol. 11 #8, 1975; * report by Suen and Lehuen, Urban Transp. Research Branch, CSTA Transport Canada, Nov. 1977. Data year: 1975.

System Name: Telebus

Location: Regina, Saskatchewan

Organization: Sponsor: Ministry of Transport, Canada; Dept. of Highways & Transp., Saskatchewan; Operator: City of Regina

Project History: Started in Sept. 1971 and expanded in June of 1972; now serves 140,000 population over 25 sq. mi. Overall public transit system passenger volume increased 3% due to Telebus which is considered to have arrested the decline in transit usage that was occurring in the city. *

~~Institutional Issues~~

System No. 128

Area Description

Population: 140,000

Service Area Pop. 63,000

Target Group Pop. ____

Service Area Size: 9 sq.mi.

Number of Zones: 14

Pop. Density of Service Area: 7000/sq. mi

Service Area Type: section of city

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to line-haul bus

Supply

Service Type: M to O
M to F

Fares: Regular 45¢

Special ____

Vehicles in Service: ____

Peak: 14+ Off-Peak: 14

Hours of Service: mon-Sat: 6am-12am
sun: 1:40pm-9pm

Annual Fleet Service Miles: 672,100 est.

Annual Fleet Service Hours: 67,210 est.

Number of Employees: ____

Drivers: ____ Control Room: ____

Maintenance: ____

Demand

Weekday Ridership 2800 est. Peak: ____

Annual Ridership: 812,000 est.

Person-Trips/1000 Residents: 44.4 est.

Person-Trips/Square Mile: 311.1 est.

Person-Trips/Square Mile/Hour: 17.3 est.

Trip Length: 3.5 miles

Access

User: Phone

Pick-up Points: House, shopping center, designated points

Access Time: Immed., subscription, Adv. reservation

Vehicles

#	Type	Capacity
16	van	19 seats + 10 stand.
6	van	14 + 8
4	van	22 + 10

Special Features: ____

Communication/Dispatching

Mobile Communications: radio

Control Center: ____

Computer: ____

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other ____

Service Levels (average time)

Ride Time: 12 min Promised Wait Time: ____

Actual Wait Time (immediate request): 10 min.

Pick-Up Deviation (advanced request): ____

Transfer Time: 5 min.

Productivity

Passengers/Vehicle-Hour: 12.1 est.

Passengers/Vehicle-Mile: 1.2 est.

Economics

Cost/Passenger Trip: ____

Revenue/Passenger Trip: ____

Cost/Vehicle-Hour: ____

Drivers' Salary: $____/hour

System Contact: ____

SYSTEM SUMMARY SHEETS

References Used: Lea Transit Compendium, Para-Transit, Vol. 11 #8, 1975; * report by Suen and Lehuen, Urban Transp. Research Branch, CSTA Transport Canada, Nov. 1977. Data Year: 74-75. (Est. figures by system)

System Name: Transcab

System No. 129

Location: Peterborough, Ontario

Organization: Sponsor: Ministry of Transport & Comm., Ontario & City of Peterborough; Operator: Call-a-Cab taxi under contract to Border Transit

Project History: Began in 1974 as a 9-month trial project; service continued and is presently funded by the city. It has tripled transit usage in the city. Placed in area not economically serviced by fixed-route bus & where dial-a-bus would be too costly. When not required for Transcab service, taxis operate regular service.*

Institutional Issues:

Area Description

Population: 58,000

Service Area Pop. 3,400

Target Group Pop.

Service Area Size: 4.4 sq. mi.

Number of Zones: 2

Pop. Density of Service Area: 778 sq. mi.

Service Area Type: section of city (low density area)

Eligible Ridership: All

Integrated with Fixed-Route System: feeder to fixed-route bus

Supply

Service Type: M to F: peak/off peak

Fares: Regular 35¢

Special 25¢ seniors, children

Vehicles in Service: 20

Peak: 20 Off-Peak: 5-8

Hours of Service: mon.-sat.: 6:15am - 12:15am

Annual Fleet Service Miles:

Annual Fleet Service Hours:

Number of Employees:

Drivers: 60 Control Room: 8

Maintenance:

Demand

Weekday Ridership: 200 Peak:

Annual Ridership: 57,000 est.

Person-Trips/1000 Residents: 58.8

Person-Trips/Square Mile: 45.4

Person-Trips/Square Mile/Hour: 2.5

Trip Length: 2.6 miles

Access

User: Phone

Pick-up Points: House, designated transfer points

Access Time:

Vehicles

#	Type	Capacity
20	cabs	

Special Features:

Communication/Dispatching

Mobile Communications: radio

Control Center:

Computer:

Labor

Union ☐ Non-Union ☐ Volunteer ☐

Part-time ☐ Other

Service Levels (average time)

Ride Time: 10 min. Promised Wait Time:

Actual Wait Time (immediate request): 30 min.

Pick-Up Deviation (advanced request):

Transfer Time: 1-3 min.

Productivity

Passengers/Vehicle-Hour:

Passengers/Vehicle-Mile:

Economics

Cost/Passenger Trip: $.90

Revenue/Passenger Trip: $.29

Cost/Vehicle-Hour:

Drivers' Salary: $ /hour

System Contact:

SYSTEM SUMMARY SHEETS

References Used: Lea Transit Compendium, Para-Transit, Vol. II #8, 1975; * report by Suen and Lehuen, Urban Transp. Research Branch, CSTA Transport Canada, Nov. 1977. Data year: ?74-75

ALTERNATIVE PARATRANSIT SYSTEMS A5

INTRODUCTION

This section has been designed for use as a basic reference guide to alternative paratransit arrangements. The characteristics of each system are briefly outlined, and existing applications are noted where possible. Although this appendix is not meant to offer guidance, the annotated bibliography should serve to identify handbooks and manuals that are useful in all stages of system development.

Carpools

Prearranged shared-ride services using private automobiles (usually owned by one or more of the members), with compensation provided either by members supplying vehicles on alternate days or by cash payments to the driver; usually most effective as commuter service, when members reside and work in the same general area and where working hours are similar.

- Special Features
  - Rapid, almost immediate implementation;
  - Relatively low cost, negligible capital costs;
  - Initiative usually from group of private individuals;
  - Areawide/employer-based initiatives may offer additional incentive;
  - Information to use in developing base maps, geographic identifiers, mechanical (e.g., locater boards, pin maps) and computer matching (FHWA COBOL program) techniques, and incentive programs are available from the Office of Public Affairs, U.S. Department of Transportation, Washington, D.C.
- Major Users/Sites

  FHWA survey in September 1974 reported that 147 out of 278 urbanized areas surveyed had carpool-matching services available; 81 carpool demonstration projects have been funded.
- Institutional Issues
  - No major regulatory problems; and
  - Insurance discounts usually insignificant.

Vanpools

Prearranged shared-ride service using vans purchased or leased by an employer, the individual, or other organization for transporting commuters with proximate origins and destinations.

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Vanpools

o Features

- Accommodate 8-15(usually 12) passengers/vehicles;
- Average round trip/van/day usually exceeds 30 miles;
- Greatest market/economic potential: medium to large urban areas with sizeable number of long commuter trips; large employers;
- Usually door-to-door service; can serve lower employee concentrations than buses;
- Ridership subscription;
- Designated employee as driver; receives work trip at no cost; access to vehicle in off-hours; may have additional incentives; back-up drivers;
- Rates usually cover ownership, operation, administration and maintenance costs; may be channeled through company;
- Usually employer-organized.

o Institutional Issues

- Laws and restrictions vary from state to state; depends on how vehicle is classified;
- Usually falls under state public utility/service commissions jurisdiction and involve licensing, recordkeeping, taxation, registration and safety requirements;
- Employee's workmen's compensation coverage depends on State's view of employer involvement;
- Generally high insurance costs (1975 estimates: $400-700/van/year); further increases force fare hikes;
- Motivating employer sponsorship; employer usually breaks even--needs initial capital to purchase vans;
- Public transit opposition.

o Employer Advantages

- Reduce parking facilities need;
- Reduce traffic congestion near offices;
- Broader labor market--(autoless workers);
- Less tardiness and absenteeism;
- Employee morale booster;
- Increased efficiency--employees complete work within certain period of time to be able to ride with van;
- Reduced company transportation costs--use vans as company car;
- Tax benefits;
- Favorable corporate image and publicity.

o Employee (User) Advantages

- Monetary savings;
- Convenience;
- Relaxing/less tedious;
- Reliable/dependable;
- Safer;
- Frees up second car in household.

o Non-user (Community) Advantages

- Conserves energy;
- Reduces pollution;
- Reduces traffic congestion;
- Reduces need for auto-related facilities;
- Eliminate need for public transit service in outlying areas.

o Employer Disadvantages

- Administrative costs;
- Initial capital outlay for vans.

o Employee Disadvantages

- Increased travel time;
- Less flexibility;
- Most cases, subscription service--(e.g., must pay for vacation/sick days they don't ride).

UNITED STATES VANPOOL PROGRAMS

YEAR	LOCATION	SPONSOR/OPERATOR	FLEET SIZE
1940's	Portsmouth, Virginia	Navy Shipyard	30
1964	New Jersey & Manhattan (New York and New Jersey)	Monarch Associates	-
1967	Washington, D.C.	FHWA	1
1970	Sussex, New Jersey	Sussex Commuter Club	1
	Decatur, Alabama	Browns Ferry Nuclear Power Plant Employees	40+
		Grumann Aircraft Plant	20-25
	Nassau County, New York (Long Island)		-
1973	St. Paul, Minnesota	3-M Company	92
	Atlanta, Georgia	MODNAR	4
	St. Paul, Minnesota	CENEX	22
	Corning, New York	Corning Glassworks	10
	Brattleboro, Vermont	Erving Paper Mills	6
1974	Minneapolis, Minnesota	General Mills	19
	Amarillo, Texas	Cooper & Woodruff	6
	Dallas, Texas	Texas Instruments	13
	Phoenix, Arizona	Sperry Flight Systems	11
	Erving, Massachusetts	Erving Paper Mills	6
	Pasadena, California	Ralph M. Parsons Company	31
	Knoxville and other Locations in Tennessee and Alabama	Tennessee Valley Authority	95
	Nutley, New Jersey	Hoffman LaRoche Pharmaceuticals	23
	Greenwich, Connecticut	American Can Company	1
	Philadelphia, Pennsylvania	Scott Paper Company	2
	Pittsburgh, Pennsylvania	Gulf Research & Development	3
	Chicago, Illinois	Montgomery Ward	6
	Sacramento, California	CALTRANS	8
	Portland Oregon	Oregon DOT FHWA DEMO	-
	Los Angeles, California	Commuter Computer	86
	Detroit, Michigan	Chrysler Corporation	25
	Minneapolis, Minnesota	Honeywell	4

*Source: Adapted from FEA, Vanpool: Executive Summary and
Britton, Frances E.K., PT: A Survey of International Developments and Prospects

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UNITED STATES VANPOOL PROGRAMS (CONTINUED)

YEAR	LOCATION	SPONSOR/OPERATOR	FLEET SIZE
1974	Redwood City, California	Ampex	3
	Forest City, Iowa	Winnebago Industries	19
	Provo, Utah	"Utah County Van Pooling"	2
	Houston, Texas, and locations in 5 Other States	Continental Oil Company (CONOCO)	66
1975	Bloomington, Minnesota	Control Data	4
	Somerset, New Jersey	AT&T Long Lines	8
	Minneapolis, Minnesota	Farmers Union Grain Terminal Association	3
	East Hanover, New Jersey	Nabisco	13
	Boston, Massachusetts	New England Mutual Life Insurance	1
	Cambridge, Massachusetts	Polaroid	4
	Dresher, Pennsylvania	Prudential Insurance	1
	Minneapolis, Minnesota	Richfield Bank and Trust	1
	Mt. Laurel, New Jersey	Taylor, Wiseman, Taylor	3
	El Segundo, California	Aerospace Corporation	18
	Newark, New Jersey	Prudential Insurance	8
	Pittsburgh, Pennsylvania	United States Steel	-
	Birmingham, Alabama	United States Steel	-
	New Jersey	New Jersey DOT	250
	South Plainfield, New Jersey	Prudential Insurance Company	56
	Los Angeles, California	3-M Company	1
	Los Angeles, California	Chrysler	-
	Los Angeles, California	Honeywell	-
	Los Angeles, California	Nabisco	-
	Los Angeles, California	Polaroid	-
	Norfolk, Virginia	Private Commuter Van Pool for Industrial Complex Employees	-

UNITED STATES VANPOOL PROGRAMS (CONTINUED)

YEAR	LOCATION	SPONSOR/OPERATOR	FLEET SIZE
1976	Houston, Texas	Aramco Services	5
	Murray Hill, New Jersery	Bell Labs	3
	Houston, Texas	Brown and Root	12
	Baltimore, Maryland	Commercial Credit	6
	Princeton, New Jersey	Educational Testing Service	1
	Palo Alto, California	Hewlett Packard	3
	Houston, Texas	Hughes Tool	5
	Denver, Colorado	Johns-Manville	3
	Newton, Massachusetts	Massachusetts General Life Insurance	1
	St. Paul, Minnesota	Minnesota Mutual Life	1
	Bloomington, Minnesota	National Car Rental	1
	Baltimore, Maryland	Peterson, Howell and Heather	1
	Minneapolis, Minnesota	Prudential Insurance	3
	Houston, Texas	Prudential Insurance	3
	Ayer, Massachusetts	Rubbair Door Division of Eckel Industries	1
	East Hanover, New Jersey	Sandor	3
	Philadelphia, Pennsylvania	Smith Kline	6
	Lakewood, Colorado	Statitrol	2
	Beaverton, Oregon	Tektronix	2
	Chicago, Illinois	Zenith Radio	8
	Nassau and Suffolk Counties (Long Island), New York	FEA Demonstration	-
	Hartford, New Haven, and Bridgeport, Connecticut	Phoenix Mutual Life Insurance and Southern New England and Telephone	-
	New Orleans-Baton Rouge, Louisiana	FEA Demonstration Program	-
	San Mateo and Santa Clara Counties, California	FEA Demonstration Program	-

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Subscription Bus/Buspools

Prearranged shared ride service, generally using paid drivers contracted on a regular basis with origins, destinations and schedules determined by the users (typically A.M. and P.M. work or school trips).

o Features

- Large capacity vehicles;
- Usually initiated by employer (similar to vanpooling) or private group;
- Usually operated by private charter companies;
- Can be initiated and operated by public transit agency or non-profit organization;
- Not as flexible as car and vanpooling;
- Requires sufficient line haul distance to compete with auto convenience and costs;
- Fewer collection and distribution points; may focus on specified high-volume sites (e.g., park and ride lots,apartment complexes);
- Transit equipment and drivers frequently already available;
- Prices reflect full compensation for costs; may include profit.

o Institutional

- Regulations normally imposed, but vary considerably by state;
- Depends on classification as common or contract carrier;
- If public operation, high union labor costs;
- If private operation, public transit opposition.

BUSPOOL, SUBSCRIPTION, AND CHARTER BUS SERVICE

YEAR	LOCATION	SPONSOR/USER	SERVICE NAME	FLEET SIZE
1950	Pittsburgh, Pennsylvania (Allegheny County)	Port Authority of Allegheny County	-	3
1958	St. Louis, Missouri	McDonnell Douglas Plant Employees	Specialty Transit	24
1961	Bremerton-Charleston, Washington	BC Transit Operation	Commuter Express Port Employees	28
1962	San Francisco, California		Wayward Bus	2
1964	Peoria, Illinois (Demonstration Discontinued, 1970)	Caterpillar Tractor	Premium Special Service	21
1965	Decatur, Illinois (Demonstration Discontinued)			
	Rochester, New York	Eastman-Kodak Employees	STATAR	3
1966	Washington, D.C.		Colonial Transit	16
1967	Los Angeles, California	COMBUS (Private Company)	COMBUS	47
1968	Flint, Michigan	Flint Transportation Authority	Maxi Cab Commuter Club	26
	Washington, D.C.	National Geographic Society Employees	Atwoods Goldline Service	8
	Reston, Virginia	Gulf Reston/Reston Company Association	Commuter Bus	35
1969	Menlo Park, California	Little House Senior Citizens		1
1970	Columbia, Maryland	Eyre's Bus Service, Columbia Association		4
1971	San Francisco, California	Golden Gate Bridge and Highway Transportation District	Club Able	11
1972	El Segundo, California	Aerospace Corporation, SAMSO Installation Employees		
1973	Los Angeles, California	Atlantic Richfield Company		
	Omaha, Nebraska	Omaha Transit		3
	Chevy Chase, Maryland	GEICO Employees		8
	Germantown, Maryland	Atomic Energy Commission Employees	Atwoods Goldline Service	3
	Tuxedo, Maryland	Environmental Protection Agency Employees	Atwoods Goldline Service	1

BUSPOOL, SUBSCRIPTION, AND CHARTER BUS SERVICE (CONTINUED)

YEAR	LOCATION	SPONSOR/USER	SERVICE NAME	FLEET SIZE
	Tuxedo, Maryland	Congressional Secretaries Club	Atwood Goldline Service	2
	Fort Meade, Maryland	Washington Bus Riders	Atwoods Goldline Service	1
	Mantua, Virginia			
	Meriden, Connecticut			
	South Glenn, Colorado			
	Detroit, Michigan			
1974	Pittsburgh, Pennsylvania (Allegheny County)	Port Authority Employees		
	Columbia, Maryland	Columbia Association of National Institute of Health		1
	Washington, D.C.	Metropolitan Council of Government		8
	Los Angeles, California	City of Los Angeles Vanpool		
	Knoxville, Tennessee	Levi Strauss & Company and TVA Employees		12
	Hartford, Connecticut	Insurance Company Employees		1
	Dallas, Texas	Texas Instruments		7
	Bremerton, Washington	Bremerton Charleston Transit (BCT)	BCT Commuter Express	28
1975	Southport, Connecticut	Proposed Service Only		1
	New Haven, Connecticut	Southern New England Telephone Company		8
1976	Napa Valley, California	Nonprofit Club (Private Individuals and Golden Gate 50% Bridge Subsidy)	Napa Valley Commute Club	1
1977	Canton, Ohio	Canton Regal Transit Authority		3

Jitneys

Paratransit service characterized by frequent, but unscheduled, operation of small-capacity vehicles over generally fixed routes with access by hail.

o Features:

- Similar to taxis;
- Usually recognized, rather than mandated fixed routes; can deviate;
- Generally 8-12 passenger vehicles (e.g., auto, vans);
- Generally individually owned and operated;
- Relatively low capital and operating costs;
- Short lead-in time required;
- Usually flat fare/passenger; sometimes zonal rate structure;
- Improves mobility on well-traveled corridors.

o Institutional:

- Jitney service practically killed through restrictive injunctions and prohibitive legislation; severely limit number of vehicles and type of service;
- Municipal and state regulations control implementation; scheduling and organizational issues usually settled by owners/drivers themselves;
- Operate illegal service in many cities;
- Non-unionized labor.

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JITNEYS AND OTHER SHARED TAXIS IN NORTH AMERICA

YEAR	LOCATION	TYPE OF SERVICE	SPONSOR	SERVICE NAME	FLEET SIZE
1915	Atlantic City, New Jersey	Jitney	Jitney Owners Association		35
1916	San Francisco, California	Jitney	Mission Street Jitney Owners Association		120
1935	Miami (Liberty City), Florida	Jitney/Shared Taxi	Taxi Company		
1957	St. Louis, Missouri (Discontinued)	Jitney	Illegal	Service Cars	85
1965	Anaheim, California	Jitney/Shared Taxi	Taxi Company		
1971	Chicago, Illinois (Kings Drive)	Jitney	Illegal Service		
1972	Pittsburgh, Pennsylvania (Hill District)	Jitney	Illegal Service		
	Baton Rouge, Louisana (Scotlandville)	Jitney/Shared Taxi	Taxi Company		
	Houston, Texas	Shared Ride/Taxi Pool	Taxi Company		
	Cleveland, Ohio	Jitney	Illegal Service		
1973	New York, New York (Harlem)	Jitney	Illegal Service		
	Chattanooga, Tennessee	Jitney	Taxi Company		
	Baltimore, Maryland	Jitney/Shared Taxi	Taxi Company		
	Eureka, California	Jitney/Shared Taxi	Taxi Company		
1974	Willingboro, North Carolina	Jitney			
	Sepastopol, California	Jitney			
1975-1976	Vienna, Maryland (Discontinued)	Jitney	Taxi Company		2
1977	District of Columbia, Washington	Jitney	Mayor's Office	Proposed Service Only	4

Loop/Shuttle Service

Paratransit service characterized by point-to-point operation, usually operated over a short circular or oblong route, permitting transfers to other modes at connecting points.

o Features:

- Fixed circuitous or line-haul route configuration;
- Semi-scheduled headways;
- Usually over a short path;
- Common on university campuses;
- May provide service to rural area;
- Also used for airport limousine service;
- May reverse direction of travel;
- Operated by public or private organizations;
- Frequently plays supplemental or feeder role to conventional system.

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SAMPLE USERS/SITES - LOOP/SHUTTLE SERVICES

YEAR	LOCATION	SPONSOR/OPERATOR	SERVICE NAME	FLEET SIZE
1972	College Park, Maryland	University of Maryland	University of Maryland Shuttle	14 Bus
	Reston, Virginia	Reston Community Bus System	Common Ground	2
1973	Arlington, Virginia Washington, D.C.	Georgetown University	Georgetown University Transportation Society Shuttle	9
	Berkeley, California	University of California	Humphrey Go-Bart	4-5
	Seattle, Washington			3 Routes
1977	Syracuse area, New York	FHWA Rural Demonstration Grant	County Shuttle	7

Rental Cars

Daily Rentals: Paratransit service characterized by the hiring of automobiles by rental agreement usually for periods of less than one year (Reference 1).

- Special Features:

  - Daily lease arrangements;
  - Industry dominated by small number of suppliers (e.g., Hertz, Avis, National);
  - High cost/mile offering maximum convenience;
  - Fairly affluent users (business or tourist related);
  - New automobiles used to minimize maintenance problems;
  - Large, intermediate, and small American and foreign models now available;
  - Majority of business from airports;
  - Competition with taxi and limousine services.

- Institutional Issues:

  - Regulated as business;
  - Renter of vehicle responsible for penalties incurred during operation.

Short-term rentals: Paratransit service which offers automobiles for rental to qualified users for short intraurban trips, usually for periods shorter than one day; multi-user vehicle system (MUVS) not currently available in the United States.

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Hitchhike

Form of free shared-ride travel, accessed by soliciting rides along a road.

o Features:

- Generally younger, poorer users;
- Frequently rural areas, college communities.

o Institutional Issues:

- Illegal in many states;
- Potentially very dangerous.

GENERAL POOLING

Highway Users Federation, How to Pool It, Washington, D.C., May, 1975.

As employers have been shown to be the key to successful ride-sharing programs, this manual is designed to give employers an overview of ride sharing, and to show how to start similar pooling programs. Basic steps common to most programs are suggested, and eight incentives that have been successfully used in getting employees to participate in ride sharing are also included.

McCoomb, Lloyd, Transportation Pooling - A Review of Eastern Canadian Pooling Systems, A Working Paper, Urban Transportation Research Branch, Canadian Transportation Development Agency, Quebec, Canada, April, 1977.

The Urban Transportation Research Branch studied and compiled information on three successful pooling programs in Valcartier, Quebec, Sarnia, Ontario, and Bathurst, New Brunswick. Their efforts reflect the varied organizational services, incentives, costs and operational possibilities available, ranging from the very structured company sponsored subscription bus service in Valcartier to a completely unstructured unsponsored car/vanpool system in Bathurst. This review may be useful as a comparative guide for other pooling endeavors.

Miesse, C.C., "Potential Reductions in Vehicle Travel from Carpools and Vanpools in Major Metropolitan Areas," Presented at Transportation Research Board Meeting, Session 109, Environmental Protection Agency, Philadelphia, Pennsylvania, January, 1978.

This paper presents techniques for determining the potential for major private and government employer carpool/vanpool programs, as functions of employee residential distribution and income level. Techniques are applied to the Washington, D.C., Metropolitan region, and are based on a car occupancy model previously developed for the National Capital area, and an empirical vanpool model derived from the highly successful vanpool program by the 3M Corporation in St. Paul.

Suen, Ling and Lehuen, Agnes, An Overview of Para-Transit Activities in Canada, Urban Transportation Research Branch, Canadian Transportation Development Agency, Quebec, Canada, December, 1977.

This paper highlights Canadian paratransit (DAB, privately operated systems, pooling, handicapped services) developments to date and evaluates their contribution toward solving urban transportation problems. Existing institutional structures affecting implementation and future paratransit potential contributions are also included.

Voorhees, Alan M. and Associates, Inc., Transportation Pooling, National Technical Information Service, No. PB-236-157, Springfield, Virginia, January, 1974.

This is a collection of ten individual reports: Review of Carpool Activities, Organization for Carpooling, Approaches to Matching, Legal and Institutional Issues, Incentives to Carpooling, Transit/Taxi Coordination, Vanpools, Buspools, Pooling for the Disadvantaged, and Carpool Backup Systems. The information and techniques presented in this series may be used to guide the implementation and coordination of alternative pooling programs within a metropolitan area.

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CARPOOLS

Cambridge Systematics, and Voorhees and Associates, Carpool Incentives: Evaluation of Operational Experience, Federal Energy Administration, Cambridge, Massachusetts, March, 1976.

Literature review of various carpooling incentives, including their descriptive and operational characteristics, applicability, institutional and legal barriers, public acceptability and their effects on travel behavior and energy use.

Johnson, Chris, and Ashish K. Sen, Carpool Planning Manual, (Report No. 2), School of Urban Sciences, University of Illinois, Chicago, Illinois, 1977.

This informative and helpful manual is part of a planning package for the highway oriented paratransit modes of carpooling, vanpooling and park and ride services. Each manual contains a description of the type of trips, markets, and potential services the mode can provide; guidelines and estimating procedures for the demand, costs, and benefits of each mode; and implementation aids, such as available funding sources, staffing requirements, specifications and marketing schemes.

Peterson, Douglas M., An Evaluation of Carpool Matching Systems, Urban Transportation Research Branch, Canadian Surface Transportation Administration, Montreal, Canada, October, 1975.

This report evaluates eleven United States and Canadian computerized carpool matching systems by identifying data and system requirements, and then comparing their existing matching software and procedures. While conclusions and recommendations focus primarily on potential Canadian applications, the basic carpooling matching requirements and discussion can be a helpful guide to identifying appropriate matching system for carpooling needs.

VANPOOLS

Deshler, Kay, Vanpool Activities Newsletter, National Association of Vanpool Operators,(NAVPO) Knoxville, Tennessee.

Quarterly publication of NAVPO providing information on various vanpooling concepts, programs, legislative, and institutional issues as well as physical and operational management.

Federal Energy Administration, Vanpool: Executive Summary and Vanpool: Implementation Handbook, prepared for Vanpool Implementation Workshops, Washington, D.C., February, 1977.

Developed as part of the 1977 Federal Energy Administrations (FEA) management workshop series on vanpooling, this package introduces the vanpool concept and outlines the steps for putting together a pooling program. Discussions include organization, selecting routes, drivers/coordinators, and vans, estimating costs, revenues, and fares, assembling pools, and dealing with legal issues.

Johnson, Chris and Ashish K. Sen, Vanpool Planning Manual (Report No. 3) School of Urban Sciences, University of Illinois, Chicago, Illinois, 1977.

(See carpool reference.)

Miller, Gerald K. and Melinda A. Green , An Analysis of Commuter Van Experience, The Urban Institute, National Technical Information Service No. PB-252-304, Springfield, Virginia, 1976.

An analysis of the planning, organization, and operation of vanpool programs in the United States and Canada, more than 30 existing operations have been examined and classified according to the type of organization, such as employer or local government, that provides the service. Benefits to users, employers, and the community are discussed, and service characteristics that are likely to attract riders are indicated. Public regulation, competition with other transit, liability and insurance, implications of driver compensation, and the potential for large-scale, areawide van service are also analyzed.

Miller, Gerald K. and Melinda A. Green , Guidelines for the Organization of Commuter Van Programs, The Urban Institute, National Technical Information Service No. PB-252-305, Springfield, Virginia, 1976.

This paper describes the major stages in the development of a company-sponsored commuter van program, outlining feasibility investigation, promotion and organization, and actual operation and administration. These guidelines presented for potential sponsors, contain seven detailed commuter van service case studies, and are based on the experience of these successful programs.

SYSTEM-SPECIFIC REFERENCES

Continental Oil Company, (CONOCO) Vanpooling: A Commuting Alternative That Works, Houston, Texas, 1976.

Continental Oil Company, and "A Marketing Concept for Vanpooling," Houston, Texas, 1976.

An overview of the 10-van pilot program CONOCO developed for its Houston employees, highlighting the advantages and disadvantages for the users and the employers. Estimates of fares, equipment needs, capital and operating expenses and revenues as well as sample agreements, questionnaires and log sheets are included.

Owens, Robert D., and Helen L. Sever , The 3M Commute-A-Van Program, St. Paul, Minnesota, May, 1974.

An overview of one of the first and probably best known employer-based vanpooling programs. Summaries of their questionnaires and rider surveys and comments are included.

Timman, Karen, Commuter Van Program, General Mills, Inc., Minneapolis, Minnesota, July, 1977.

Based on General Mills' experience, this manual clearly describes the advantages and disadvantages of commuter vanpooling. Procedures for establishing a basic vanpooling programs, as well as several possible variations are included. Employee surveys and questionnaires, van and equipment specifications, sample pool coordinator's agreement, billing forms and itemized fare and cost estimates may be used as guides for outlining a similar program.

Chrysler Corporation, Commuter Vanpooling Operations Guide for Employers, Public Responsibility and Consumer Affairs Division, Detroit, Michigan, October, 1977.

Based on Chrysler Corporation's employee vanpooling experience, this manual outlines suggested planning, implementation, and operating procedures for other potential employers-based vanpooling programs. Helpful sample supporting materials include: marketing information, operating agreement for driver/coordinator, passenger agreement, revenue and expense reports, and driver logs.

Commuter Transportation Services, Inc., Vanpool, Commuter Computer Vanpool, Inc., Los Angeles, California, 1976.

An introduction to the unique Commuter Computer nonprofit ride-sharing program which currently serves several employers within the Los Angeles region dministrative requirements, sample applications and leases, as well as financial and operational requirements of the various parties are included.

Bush, Leon R. and George J. Todd , Vanpool Implementation in Los Angeles, (Commute-A-Van) The Aerospace Corporation, Los Angeles, California, November, 1975.

SUBSCRIPTION BUS/BUSPOOLS

Kirby, Ronald F. and Kiran U. Bhatt, Guidelines on the Operation of Subscription Bus Services, The Urban Institute, Washington, D.C., July, 1975.

This study deals with the planning, organization, and operation of specialized subscription bus services, which are tailored to serve urban travelers who agree to patronize them on a regular basis. Based on ten detailed case studies of such services, the authors develop guidelines for identifying and informing potential riders; obtaining vehicles and drivers; meeting regulatory requirements; setting routes, schedules, and fares; and obtaining special privileges such as the use of express lanes and close-in parking. Consideration is also given to the potential impacts of these services on congestion, pollution, and fuel consumption, and to their influence on residential location decisions.

Truby, James T., Door-to-Door Buspools: Recommendations for Public Policy, Consortium of Universities, National Technical Information Service, No. UMTA-DC-11-0003-73-11, Springfield, Virginia, November, 1973.

This report details the planning, implementation, expansion, refinement and problems of Columbia and Baltimore, Maryland's buspools. Buspools in Reston, Virginia, Flint, Michigan, and Peoria and Decatur, Illinois are also compared to identify and recommend ways that public policy can encourage the creation of buspools.

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JITNEYS/TAXIS

Rosenbloom, Sandra, Taxi and Jitney Service in the United States and Recent Transportation Trends in the Inner City, General Research Corporation, Santa Barbara, California, February, 1971.

This paper analyzes the history of different taxi and jitney operations, their patronage and market appeal, and their effect on other transportation systems, demand especially within downtown and particularly inner city areas. Restrictions and regulations on the taxi and jitney industry are discussed and partially blamed for the federal and local governments' inability to meet inner city transportation needs.

Rosenbloom, Sandra, "Taxis, Jitneys, and Poverty," Trans-action: Social Science and Modern Society, Volume 7, Number 4, February, 1970.

Transportation services from ghettos to outlying areas and especially places of employment are inadequate at best and often non-existent. This article describes how jitneys and taxis can play a triple role in filling these unmet urban ghetto needs, by (1) providing transportation to employment sites (2) jobs for low-skilled ghetto residents as drivers and mechanics, and (3) mobility and social services for the poor.

MICROMODELS A6
MACROMODELS A7

SUMMARY OF MODEL ATTRIBUTES

Tables A-6 and A-7 summarize, respectively, the attributes of the micromodels and macromodels reviewed in Reference 159. Key assumptions, required inputs, expected outputs, and potential uses are identified for each model, and reviewer comments are summarized where appropriate. Model classifications are listed in order of decreasing complexity, from micromodel simulations to the roughest rules of thumb. Comparison of input requirements makes it plain that simulations require far more in the way of input data, time, and user sophistication than any of the other models. At the other end of the spectrum, the user of the simplest empirically-derived guidelines needs only a knowledge of the total population in the proposed service area and a certain degree of faith that the system being planned is not materially unlike the systems used in deriving the guidelines. For those lacking this faith, one set of guidelines (City of Los Angeles guidelines, Reference 199) offers the following admonition: Estimate the required number of buses using the derived linear regression relationship. Then divide this number by two and proceed cautiously.

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TABLE A-6: SUMMARY OF MICROMODEL ATTRIBUTES

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
SIMULATION MODELS					
168 Northwestern BUSTOP Model	Service type: many-to-many; immediate. Bus terminal: at center of square; all buses originate at terminal and return when empty. Demand: Poisson with time, uniform spatially; facilities for other exogeneous specification. Routing discipline: assignment of passenger to closest bus such that minimum and maximum pick-up time and a piecewise-linear maximum travel time constraints are met; no reassignment; new bus assigned from terminal if none in service can satisfy the demand.	Bus capacity; bus speed; pick-up and travel time constraints; parameter of travel time constraint; demand rate.	Passenger statistics: wait time; ride times; total time; excess time (that over minimum possible travel time). Bus statistics: road time; passenger minutes per bus; percent of time on road; passenger minutes per bus.	The value of this early model has been superseded by more complete models.	Street representation: 10 x 10 square grid; regularly spaced streets.
179 Westinghouse Model	Service type: many-to-many; immediate. Street representation: square grid; variable area; bus terminal at center. Routing discipline: priorities assigned to waiting passengers and those on bus based on linear functions of origin-to-destination distance, distance to bus and total wait time; next stop scheduled for patron with highest priority. Extra bus utilized for long trips; attempts to guarantee level of service by a bound based on auto travel time.	Appears to be inherently designed into system.	Similar to Northwestern model.	Model has been superseded by more complete models.	

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
169 General Motors Model	Service type: many-to-many; immediate. Street representation: case study city; node-arc network representation with 4000 nodes, 10000 one-way arcs; links classed by primary and secondary streets; about 36 square miles. Travel times: computed by shortest route algorithms. Terminals: arbitrarily assigned in network. Routing discipline: cost function based upon four criteria: 1) increase in travel and wait time; 2) wait and travel time; 3) vehicle deviation; 4) number of active buses; weighted sum of cost function minimized in passenger assignment; constraints on wait and travel time; enumerative solution to minimize cost; new bus dispatched when needed to satisfy constraints.	Demand distribution; vehicle speeds and capacities; objective function weights; wait and travel time constraints; terminal locations.	Appear to be similar to the Northwestern Model.	Feasibility and planning dial-a-bus in the case city and more general understanding of dial-a-bus technical problems.	
173 Ford Model	References not available at this time for this model.				

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MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
202 Gerrard's Model	Service type: many-to-many; immediate; dial-a-bus and exclusive-ride taxi. Street representation: square, variable area; uniform grid; travel at constant speed. Demand: approximately uniform in time and space; satisfies an arbitrary trip length distribution. Routing discipline for taxis: passenger assigned to vehicle which can reach it first after delivery of all previous assignments; exclusive ride. Routing discipline for dial-a-bus: minimizes total trip time for all passengers for each insertion of the origin/destination pair in the present tour; no reordering of previous assignments; no reassignment.	Vehicle speed, demand rate; vehicle density; area size.	Wait time; ride time; total time; vehicle idle time; some variances.	Comparison of service characteristics of taxi vs. dial-a-bus.	
176 Princeton Generalized Feeder Simulation	Service type: many-to-one; immediate; for any of the following: exclusive-ride taxi, jitney, fixed schedule bus, dial-a-bus. Station: single trip attractor which is a station for a line haul system with a fixed schedule train (or bus). Demands: assumed to request next train; if scheduler cannot make train then demand either leaves the system or waits for following train based on Bernouli trial; uniform in space and time; number of riders at pick-up a Bernouli random variable. (Continued on following page.)	Vehicles: capacity; speed; number; station coordinates; interval between trains; demand rate; average notice time prior to train departure; proportion of customers willing to wait for later train; ride and wait time weights.	Wait time, ride time, origin distribution, vehicle-hours, vehicle-idle time, costs based on a linear function of appropriate outputs.	Relative comparison of the quality and cost of types of feeder service on a many-to-one basis.	

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
176 Princeton Generalized Feeder Simulation (Continued)	Routing discipline: only assignments which will reach the station by the next train (and not cause previous assignments to miss the train are made); since service is many-to-one, a route is a list of pick-ups between station stops; the best insertion into the vehicle's route is made which does not violate the station arrival constraint and which minimizes a linear function of wait and ride time; insertions are also governed by the particular service type being modeled. Street representation: square grid; implied streets; constant vehicle speed.				
171 MIT CARS 186 Model	Service type: many-to-many; immediate and advanced requests. Street representation: implied grid; boundaries defined only by demand generation zones; travel times between pairs of rectangular zones specified by a two-dimensional travel time matrix. Demand: sets of rectangular demand zones are defined; demand generated (i.e., origins and destinations) from a discrete joint probability matrix or origin and destination zones; points then selected uniformly within the zones; inter-demand times selected according to an arbitrary exogeneous distribution; independent demand classes. (Continued on following page	Bus capacities: bus speed constraint parameters; rectangular demand zones; demand rate distributions; trip length data; number of vehicles; relative weights of cost function terms; advanced request assignment time; priorities of demand classes.	Passenger minutes; vehicle utilization; vehicle productivity; deliveries per hour; vehicle time in service; wait time; ride time; constraint violation statistics; trace of all transactions which occurred.	Varying parameters in internal routing disciplines ; planning and feasibility studies; calibration of analytic models.	Tied to single routing algorithm which relies on exhaustive enumeration of possibilities.

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MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
171 MIT CARS 186 Model (Continued)	Cost function: linear function of wait time, ride time and incremental increase in tour length. Routing discipline: insert new demand in vehicle's tours to minimize the cost function and satisfy "hard" constraints on wait time, ride time and total service time (linear with trip length); optimization is through enumeration. Advanced requests simply scheduled a fixed interval before desired pick-up.				
184 MIT ADAR Model	Service type: many-to-many; immediate and advanced requests. Street representation: same as MIT CARS. Demand: same as MIT CARS. Cost function: quadratic cost function of wait time, ride time, pick-up time deviation, delivery time deviation and tour length increase weighted terms. Routing discipline: insert new demand in vehicle tours to minimize cost function and satisfy constraints on wait time, ride time and total service time; optimization is through enumeration; advance requests scheduled early. Other features: fixed stops (leave at particular time if arrives early); dynamic hard constraints, dynamic assignment time for advanced requests.	Bus capacities and speeds; constraint parameters; rectangular demand zones, demand rate distribution, trip length data; number of vehicles; cost function weights and parameters; demand class priorities.	Basically the same as MIT CARS.	Studying alternative routing disciplines; planning and feasibility studies; calibration of analytic models.	

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
DEMAND/SUPPLY DISAGGREGATE MICROMODELS					
172 Cambridge Systematics Equilibrium Model	Multinomial logit disaggregate choice model for work trips; travelers decide on each leg of a complex tour step-by-step for non-work trips; supply and demand in equilibrium; non-work trip demand model is stochastic simulation.	Vehicle: speeds; fleet size. Population: age distribution, auto availability; worktrip matrix (zone-to-zone) distributions by time of day; Zonal data: coordinates, area employment, population. Percent of population as non-work trip candidates. Dwell and departure time distributions; travel time estimates for available modes; Demand per hour; trip length data.	Vehicle productivity; average ride and wait times; "work mode" choice.	Estimate equilibrium patronage levels and corresponding level of service.	

TABLE A-7 SUMMARY OF MACROMODEL ATTRIBUTES

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
STOCHASTIC MODELS 197 Daganzo: Many-to-One Model (1976)	Arrivals occur in a steady deterministic stream; routing strategy always serves next-nearest point.	Fleet size; rates of arrival into system (a) at rendezvous point; and (b) elsewhere; size of area (mi^2).	Steady state wait and ride times.	Predict wait and ride times in a many-to-one system.	Analytic model based on geometric probability.
196 Daganzo: Many-to-Many Model (1977)	Routing strategy always serves next-nearest point; time between stops is an exponentially distributed random variable; arrivals occur in a steady deterministic stream.	Fleet size; average stop time; vehicle speed; demand density (passengers/mi^2/hr), area of region (mi^2).	Steady state wait and ride times.	Predict wait and ride times in a many-to-many system.	Two methods: queuing theory and Markov analysis.
182 Wilson, Lerman: Queuing Model (1974)	Arrivals occur in a steady deterministic stream uniformly throughout the region; total daily travel is fixed at an equilibrium level; the modal split is a function of only the expected wait time, fare and level of service.	Vehicle speeds; time for passenger to board and exit vehicle; average trip length (mi); fare.	Equilibrium supply and demand levels (fleet size level of service, passengers/mi^2/hr).	Predict equilibrium levels of supply and demand.	
211 Manski: Taxi Queuing Model (1976)	Arrivals occur in a Poisson process with uniform rate throughout the region; service time is an exponentially distributed random variable.	Arrival rate (passengers/hr); fare; costs (capital and operating); service rate.	Taxi utilization (passenger-hours per taxi-hour); hourly profit.	Estimate taxi utilization profit figures, assuming a known demand rate.	Classical queuing approach.
DETERMINISTIC MODELS 191 SYSTAN SMART Model (1976)	Integrated system composed of twenty alternative system combinations; grid-type network, separate modules for residential areas, line-haul corridors, and CBDs with demand uniformly distributed throughout each module.	Description of system combination, and coverage desired; area, population, and employment of modules; inter- and intra-module trip distributions (available by default from population and employment statistics); labor cost and shift requirements; transit mode share (parametrically treated).	Fleet size requirements; wide variety of performance and cost measures, including trip time, cost, walk and wait times, service rates, energy consumption and air pollutant emission at local, corridor and regionwide levels.	Policy analysis; tradeoffs between different service combinations; testing alternative deployment scenarios; sensitivity analyses.	Modular macro-model

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
181 Multisystems Macro Model (1976)	Integrated system; travel distance through street network is simple multiple of euclidean distance; medium-sized city (actual study done on Rochester, NY); traditional zonal structure with node-link network model and demand concentrated at centroid of each zone.	Hierarchy of zones, districts, subregions and rings; interzonal trip matrices; labor costs and shift requirements; transit mode share (parametrically treated). Node-link model of transportation network.	Performance and cost measures; fleet size.	Policy analysis; testing alternative deployment scenarios; sensitivity analyses; route and service level analysis in specific areas.	
195 Colangelo: Cross-Classification Demand Estimation (1977)	Demand is determinable by income and auto ownership statistics; small-to-medium sized urban area.	Income and auto ownership figures for each census zone.	Expected number of daily transit trips for each zone.	Estimate demand level by using census data.	Multiple regression.
216 Popper, Bent: Guidelines (1977)	Semi-demand responsive system (trips booked a few days in advance); rural setting; orthodox street network; rule-of-circles criterion for vehicle routing (each passenger must always get closer to his destination.	County-wide or "sector-wide" service (sectors are wedge-shaped regions which radiate outward); fleet size; daily ridership.	Average cost per passenger trip.	Analyze costs for semi-demand responsive transportation systems in rural areas.	Results of simulation.
225 Ward: Non-doorstop Subscription Analysis (1975)	Bus stops at only designated spots, and only if passengers are waiting; demand distributed uniformly over area.	Service ratio; demand density.	Productivity levels for doorstop and non-doorstop DRT service.	Compare productivities of the two services for a given area.	Conclusions are: fixed-route best for high demand; doorstop best for low demand; non-doorstop best for an intermediate range.
226 Ward: Comparison Between DRT and Fixed-Route Service (1976)	Demand distributed uniformly over area.	Route spacing, bus speed for fixed-route bus; effective vehicle speed, fleet size for DRT; demand density.	Productivity of each as a function of level of service.	Compare productivities of DRT systems and fixed-route systems for given area.	As demand increases, fixed-route productivities surpass those of DRT.
164 General Motors: Demand Elasticity Model (1972)	Demand can accurately be determined from advance surveys	Fare; wait time (min.); ride time (as a multinle of travel time by auto).	Transit mode split, in percent.	Estimate transit mode-split percentage based on fare and level of service.	Need to use surveys.

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MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
203 Hartgen: New York State Forecasting (1974)	Height of demand curve determined by ridership levels in previous dial-a-bus cities; shape of curve determined from a survey.	Results of survey; past DRT ridership experience in other cities.	Demand as a function of fare by age brackets.	Estimate demand by use of surveys.	Actual results not particularly promising, requires survey work.
207 Knighton: New York State Forecasting (1976)	Shape of demand curve does not change from city to city; height of demand curve determined by population statistics of area.	Average ridership levels in other DRT cities; population statistics of area.	Demand as a function of fare by age brackets.	Estimate demand without using surveys.	Similar approach to Hartgen with no surveys needed.
71 Wilson: Fleet Size Model (1971)	Demand distributed randomly and uniformly throughout service area; formula derived from simulation results.	Service time; vehicle speed; ridership; area of region (mi^2).	Fleet size.	Estimate necessary fleet size by manual calculation.	Model calibrated using simulation results.
71 Wilson: Service Time Model (1971)	Demand distributed randomly and uniformly throughout service area; formula derived from simulation results.	Fleet size; demand density (passengers/mi^2/hr); area of region (mi^2).	Service time.	Estimate service time by manual calculation.	Model calibrated using simulation results.
200 Wilson: Supply Model (1976)	Effective vehicle speed (including stops) is known; airline distance and street distance are related by a constant factor; formula derived from a simulation result.	Effective vehicle speed; productivity; fleet size, demand density (passenger/mi^2/hr) mean trip length; area of region.	Wait time, ride time.	Predict wait and ride times manually.	
258 Voorhees Diversion Curves (1976)	Survey data used to determine fare elasticities. Absolute market shares estimated by experience with Haddonfield and Columbus systems.	Average fare; level-of-service ratio; trip purpose (work or non-work); income level of tripmaker (low, medium, high)	Transit mode split (%)	Characterize typical supply/demand interactive behavior. Quickly obtain ballpark demand estimates.	
EMPIRICAL MODELS 188 Mitre: Nomographs (1974)	Specific cost estimates for vans, radios, antennas, wages, linear relationships between nomograph variables (e.g., necessary fleet size is a linear function of daily ridership if travel time is held constant).	Service area size ($mi.^2$) and population; type of service offered (many-to-many or many-to-one); travel times; salaries for drivers; fare.	Monthly revenues and operating costs, optimum fare levels, amount of subsidy needed, daily ridership, fleet size.	Estimate demand, supply, and cost figures by successive nomograph iterations.	Based on linear regression.

MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
209 Lextran Calculator (1973)	Level of service held at three; specific relationships between nomograph variables (e.g., trips/mi^2/hr is a known function if the fare is held constant).	Initial fare; hourly wages; area and population of service area.	Fleet size; demand density (trips/mi^2/hr); necessary financial support.	Quick ballpark estimates of supply, demand and cost.	Nomograph technique, presumably based on empirical data.
193 Mitre: Demand Estimation (1976)	Small area with relatively homogeneous population.	Population and/or population density.	Ridership and sensitivity to fare changes.	Quickly estimate demand of DRT systems based on early obtainable census data.	Empirical fitting to real world data.
193 Mitre: Fleet Size Estimation (1976)	Demand during peak hour is 10% of daily ridership; small to medium urban area.	Peak hour demand density (riders/mi^2/hr).	Necessary vehicle density (veh/mi^2).	Estimate fleet size necessary to serve an area with known peak hour demand.	Empirical fitting, with minimum and maximum bounds given (real world figures used).
193 Mitre: Cost Model (1976)	Small to medium urban area; linear relation between input and output.	Labor wages/hr.	Operating costs per vehicle-hour.	Estimate vehicle operating costs.	Empirical fitting to real world results.
187 Mitre: Cost Model (1974)	Fleet size known; 16-hour daily operation; specific assumed values of wages and supply costs (gas, oil, etc.).	Fleet size.	Daily operating costs.	Estimate daily operating costs based on knowledge of fleet size.	Empirical fitting to real world results.
213 Mitre: Haddonfield Evaluation (1973)	Specific site: Haddonfield; constant fleet size.	Daily ridership.	Wait and ride times.	Charts service time as a function of ridership for a specific setting.	
199 L.A. Guidelines (1977)	Linear regression in 23 systems.	Area.	Fleet size (total seats needed).	Estimate fleet size.	
208 Lea Ready Reckoners (1976)	Empirically derived relationship. Uniform population density throughout area.	Population and population density of service area.	Demand (annual transit person-trips per capita)	Quickly estimate potential demand.	Calibrated on several towns in Alberta, Canada.

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MODEL	KEY ASSUMPTIONS	INPUTS	OUTPUTS	POTENTIAL USES	COMMENTS
RULE-OF-THUMB MODELS					
199 Rule-of-Thumb from L.A. Guidelines (1977)	One seat per 1040 people.	Population.	Fleet size (total seats needed).	Rough fleet size estimate.	Empirically derived rule-of-thumb.
7 Rule-of-Thumb from TSC Guidelines	It is considered necessary to maintain the level of service such that the ratio of waiting time plus travel time for a demand responsive trip to the time required to make the same trip by private auto does not exceed 3.0.			Bounds acceptable service units.	Higher ratios may be permissible where relatively short periods of absolute time are involved.

DEPARTMENT OF TRANSPORTATION

Urban Mass Transportation Administration

[UMTA Docket No. 76-05]

PARATRANSIT SERVICES

Proposed Policy

The purpose of this Notice is to issue for review and comment a statement of policy of the Urban Mass Transportation Administration with respect to paratransit.

The Urban Mass Transportation Act of 1964, as amended, declared it to be in the national interest to encourage and promote the development of transportation systems embracing various modes of transport, both public and private. In support of this objective, the Urban Mass Transportation Administration declared flexible, collective paratransit services eligible for Federal capital and operating assistance under the formula grant (section 5) program (40 FR 2535, issued January 13, 1975).

The subsequent growth of interest in paratransit has made it desirable for UMTA to clarify its position on the potential role of this family of transportation services and on their implications for the administration of the Federal mass transportation assistance program.

The Urban Mass Transportation Administration invites comments on the proposed policy from all interested parties. Comments should be directed to UMTA's Office of Policy and Program Development, Room 9316, 400 Seventh Street, SW., Washington D.C. 20590. All written communications received on or before November 30, 1976, will be considered in the preparation of the final Statement of Policy.

Issued in Washington, D.C., on October 15, 1976.

ROBERT E. PATRICELLI,
Urban Mass Transportation Administrator.

POLICY ON PARATRANSIT

The strength of our transportation system lies in its diversity, with each mode contributing its unique and inherent advantages and responding to different consumer demands at various levels of cost and quality of service. It is the policy of the Department of Transportation to preserve and encourage this diversity by promoting competitive opportunity for all forms of transportation, both public and private; and to encourage cooperation, connectivity and integration among different modes and types of service.

Paratransit—flexible, collective transportation services, operated publicly or privately and using small or intermediate-sized vehicles—has an important role to play in such a unified transportation system. Its various forms, when properly designed and implemented as part of a coordinated areawide transportation plan, can satisfy a wide range of local transportation needs that would otherwise remain unmet or provided for less effectively. In rural America, in small towns and in suburban communities where population densities are low and travel patterns diffuse, paratransit will often be the most economical form of local public transportation. In many communities, large and small, paratransit can offer the best means of serving the needs of elderly, young and handicapped persons, and those who do not own cars and have no convenient access to regular public transportation.

The effectiveness and efficiency of a total transportation system can be increased by coordinating paratransit with conventional transit. In lower and medium density areas where the automobile is the only access mode to regular transit service, paratransit can provide pre-arranged collection-distribution service to fixed-route line haul systems, thereby extending the reach of public transportation into low density residential areas that would otherwise remain unserved. If demand increases, paratransit services can be progressively replaced by conventional fixed-route services. Thus, paratransit can serve as a vanguard for regular transit, opening up new market territory and building up the transit habit at a cost affordable to the community.

Paratransit can also supplement conventional fixed-route service by providing higher quality service to those who desire and are willing to pay for it. The combined effects of a high level of automobile availability, increased affluence and more dispersed travel patterns have estranged many people from conventional transit. Flexible, personalized paratransit services offer a chance of persuading the transit independents to abandon their total reliance on the private automobile and to become users of public transportation for local, short-distance trips.

Finally, paratransit, in the form of voluntary, cooperative ride-sharing arrangements, can enable people living in outlying portions of metropolitan areas with no convenient access to regular transit service to cease their dependency on the private automobile for the trip to work, and to contribute to the goal of relieving congestion and conserving energy.

In sum, transit and paratransit complement each other and can be made to work in a productive partnership to the advantage of both modes. In some cases this partnership can take the form of cooperative arrangements between private and public operators, each serving a different segment of the market. In other cases, a public transit authority can serve as a broker, contracting with different private and public operators to provide the most economical and convenient service to fit the market needs of a particular segment of the community. The important point is that our metropolitan areas with their varied forms, densities and travel patterns, require a mix of conventional and flexible transit services to serve different market needs. An effective metropolitan transportation system should take the form of a cooperative partnership of paratransit and regular transit modes, with closely coordinated services and with the possibility of varied ownership of its different components. Such a system offers promise of the greatest overall operating efficiency and effectiveness by exploiting the inherent advantages of each mode and providing a range of differentiated service options that respond to varying consumer demands and different local needs and budgets.

PLANNING FOR PARATRANSIT SERVICES

UMTA encourages urban areas to consider paratransit services whenever such services offer promise of a more effective, efficient and economical way of providing needed public transportation service. Examples of circumstances for which paratransit service could be appropriate are local circulation in low density areas, transportation of elderly and handicapped persons, substitute late night and weekend transit service in central cities, feeder/distribution service to line haul operations in low density neighborhoods, and cooperative ride-sharing arrangements for the home-to-work trip.

Consideration of paratransit services is encouraged in the development of Transportation System Management (TSM) plans, Transit Development Programs in non-urbanized areas, and plan elements developed pursuant to UMTA regulations concerning Transportation for Elderly and Handicapped Persons (49 CFR 613). UMTA will seek to ensure, as part of the annual review of the Transportation Improvement Program (TIP), that the use of paratransit services has been adequately considered in the development of the TSM plan and the plan element intended to meet the transportation needs of elderly and handicapped persons (49 CFR 613), and that those paratransit services that have been included in the TSM plan are programmed for implementation. At the same time, the intent and spirit underlying the Federal program of mass transportation assistance is to leave to localities the widest possible discretion and flexibility in deciding upon the nature and mix of their transportation system. UMTA, therefore, will abide by the local judgment as to the choice of modes and mix of services to be included in the local plan and program.

Sections 3(e) and 4(a) of the Urban Mass Transportation Act of 1964, as amended (hereinafter "the Act") encourage maximum feasible participation of private enterprise in carrying out the local urban transportation program. Pursuant to this policy, UMTA will seek to ensure, as part of the annual review of the Transportation Improvement Program (TIP), that local taxi operators and other private transportation providers have been afforded a fair and timely opportunity to participate in the development of local transportation plans and programs and to recommend the inclusion of private paratransit services (including special services for elderly and handicapped persons) in the Transportation System Management (TSM) plan and in the annual element of the Transportation Improvement Program (TIP).

Outmoded local laws, regulations and ordinances often constitute a barrier to paratransit implementation. Local and State agencies are encouraged to review existing laws, regulations and ordinances pertaining to paratransit operation, and eliminate or revise obsolete requirements or prohibitions that constrain or inhibit the introduction of paratransit services.

The proliferation of different social service agencies providing independent and uncoordinated special transportation services often constitutes an unnecessary duplication in equipment, facilities or labor, and represents a potential waste of public funds. State and local governments are urged to ensure maximum possible coordination in the delivery of such special transportation services, including offering existing operators a first opportunity to deliver the needed service with the funds available. UMTA, for its part, will attempt to facilitate such coordination through close cooperation with other Federal agencies.

Protection of Existing Private Operators

Provision of paratransit service will often be carried out most efficiently and effectively by private transportation companies. It is in the public interest not to foreclose private operators from engaging in the provision of paratransit service where such private operators are willing and able to provide this service. Pursuant to this policy and to Sections 3(e) and 4(a) of the Act, UMTA will not provide financial assistance to any publicly-owned mass transportation company or private non-profit organization for the purpose of operating paratransit services in competition with paratransit services proposed or already being provided by an existing local taxi operator or other private transportation provider, unless it finds that the officially-developed local transportation program provides to the maximum extent feasible for the participation of private transportation companies (whether or not such companies are providing at the time mass transportation services).

A local transportation program will be found to provide for maximum feasible participation of private transportation companies if it offers local taxi operators and other private transportation providers full opportunity to bid for the provision of any new paratransit services that might be proposed by public bodies for the implementation with the assistance of UMTA funds; and if it provides for the selection of the service provider competitively, on the basis of the highest efficiency and effectiveness, and least cost.

Compliance with the above policy of protection of private enterprise in the delivery of paratransit services will be ensured by UMTA through the annual review of the Transportation Improvement Program (TIP). Regulations are also being developed which will implement the general statutory requirement that maximum feasible participation be accorded to private enterprise in implementing an urban transportation program, going beyond the area of paratransit service.

Eligibility for Federal Financial Assistance

Federal funds available pursuant to Sections 3 and 5 of the Act may be used to assist in the provision of paratransit services by publicly or privately owned transportation companies. Such funds may be used for the acquisition of equipment and for the payment of operating expenses (including depreciation on capital equipment) involved in the delivery of paratransit services. Any financial assistance to privately owned companies must, under the Act, be provided through a contractual arrangement with a public body or agency thereof or with a private non-profit organization.

To be eligible for such Federal financial assistance, a paratransit service must be included in the annual element of the local Transportation Improvement Program (TIP), or in a Transit Development Program (TDP) in the case of non-urbanized areas.

Paratransit services which may qualify for Federal financial assistance include dial-a-ride, jitney, community minibus, subscription bus service, certain forms of vanpooling and other types of collective (shared-ride) transportation services which are regularly available to the public, i.e. which cannot be reserved for the private and exclusive use of individual passengers.

Services which are not eligible for Federal financial assistance include exclusive-ride taxi services, car rental services, for-hire limousines and private ambulance service, and other similar forms of private transportation.

Where an organization is providing paratransit service as an incidental adjunct to its main business, UMTA will not consider such organization to be a mass transportation company within the meaning of Section 3(e) of the Act, or a mass transportation company or system with employees entitled to protection under Section 13(c). For example, a non-profit senior citizens center receiving capital assistance directly or through a public body under Section 3 or Section 16 of the Act for the purpose of providing transportation services to and from the center, would be considered by UMTA as not within the meaning of Sections 3 (e) and 13(c). Similarly, a private taxi operator providing shared-ride paratransit services or contract services to a public transit authority, e.g. to provide special transportation services for elderly and handicapped persons, could be held to be providing such services on an incidental basis to its main business.

Research, Development and Experimentation

To assist in making paratransit a more viable option for urban areas, UMTA maintains an active paratransit research, development and demonstration program. The objectives of this program are: (1) to investigate the potential of combining flexibily routed and fixed-route services in regional coverage systems integrating paratransit and conventional transit modes; (2) to develop and demonstrate viable institutional arrangements to support paratransit; (3) to develop and test improved vehicles and support technology for the delivery of paratransit services; and (4) to demonstrate innovative applications of paratransit services.

[FR Doc 76 30740 Filed 10-19 76;8:45 am]

Title 49—Transportation

CHAPTER VI—URBAN MASS TRANSPORTATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 613—PLANNING ASSISTANCE AND STANDARDS

Urban Transportation Programing for Elderly and Handicapped Persons

The purpose of this document is to issue a final regulation which states additional criteria for the Urban Mass Transportation Administrator's project approvals under 23 CFR 450.320 and to issue advisory information on that regulation.

Also being issued today are the Urban Mass Transportation Administration's elderly and handicapped regulations (41 FR 18236) and a joint UMTA-Federal Highway Administration issuance providing advisory information on urban transportation planning for elderly and handicapped persons (41 FR 18236). Since the programing regulation and advisory information being issued by this document have a close relationship to the joint UMTA–FHWA issuance described above, the preamble to the latter material, published at page 18235 of this edition of the FEDERAL REGISTER, is incorporated into this preamble.

In consideration of the foregoing and under the authority of section 16 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1612), section 165 (b) of the Federal-Aid Highway Act of 1973, as amended (23 U.S.C. 142 nt.), section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), and delegation of authority by the Secretary of Transportation at 49 CFR 1.51, chapter VI of the Code of Federal Regulations is hereby amended by adding a new section as set forth below, and the advisory information also set forth below is added to 49 CFR Part 613, Subpart B, as an appendix.

Effective Date: This regulation and advisory information are effective on May 31, 1976.

Issued on April 27, 1976.

ROBERT E. PATRICELLI,
Urban Mass Transportation Administrator.

Section 613.204 and an appendix to 49 CFR Part 613, Subpart B, are added as set forth below:

§ 613.204 Additional criteria for Urban Mass Transportation Administrator's approvals under 23 CFR 450.320.

The Urban Mass Transportation Administrator will grant project approvals pursuant to 23 CFR 450.320(a)(3) only if:

(a) The urban transportation planning process exhibits satisfactory special efforts in planning public mass transportation facilities and services that can be utilized by elderly and handicapped persons; and

(b) The annual element of the transportation improvement program developed pursuant to 23 CFR 450.118 and submitted after September 30, 1976, contains projects or project elements designed to benefit elderly and handicapped persons, specifically including wheelchair users and those with semiambulatory capabilities; and

(c) After September 30, 1977, reasonable progress has been demonstrated in implementing previously programed projects.

APPENDIX

ADVISORY INFORMATION ON THE URBAN MASS TRANSPORTATION ADMINISTRATION'S REQUIREMENTS ON PROGRAMING FOR ELDERLY AND HANDICAPPED PERSONS UNDER 49 CFR 613.204

Pursuant to the planning requirements established for urbanized areas in title 23 and the Urban Mass Transportation Act of 1964, as amended, the Urban Mass Transportation Administration (UMTA) and the Federal Highway Administration (FHWA) have previously jointly issued regulations (23 CFR Part 450 and 49 CFR Part 613) that require the urban transportation planning process to include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons. They have also issued a supplementary statement which provides advisory information on the special efforts planning requirements (appendix to 23 CFR Part 450, Subpart A, published in this edition of the FEDERAL REGISTER). The Urban Mass Transportation Administration has also issued a regulation (49 CFR 613.204) which requires special efforts in the programing of projects. The purpose of this statement is to provide advisory information on that programing regulation.

As a result of special efforts in planning, projects designed to benefit elderly and handicapped persons, including projects designed specifically to benefit wheelchair users and those with semiambulatory capabilities, should appear in the annual element of transportation improvement programs submitted to UMTA after September 30, 1976. The term "projects" is meant to include significant features of larger projects (e.g., level-change mechanisms on full-size buses), as well as specially designed services and improvements in the coordination of existing services and resources. "Projects" includes payment of current operating costs of previously purchased wheelchair-accessible equipment and includes payment of expenses associated with indirect methods of providing service, such as subsidies to reduce taxi fares for wheelchair users or trip coupons provided directly to wheelchair users.

Projects funded by UMTA under section 16(b)(2) may be identified as deriving from local special efforts to meet the needs of wheelchair users and semiambulatory persons only to the extent that the following four conditions are met: (1) the service and vehicles serve wheelchair users and semiambulatory persons; (2) the service meets a priority need identified in this planning process; (3) the service is not restricted to a particularized organizational or institutional clientele; and (4) any fares charged are comparable to those which are charged on standard transit buses for trips of similar length.

The coordination of existing transportation available for wheelchair users and semiambulatory persons, and funds which support the provision or purchase of such transportation, provided by the transit operators, governmental health and welfare agencies, and private nonprofit organizations may be identified as a project deriving from local special efforts. If the service and resources thus coordinated meet the four conditions for eligible section 16(b)(2) services (see above) and appear in the transportation improvement program, then those services and resources themselves may be identified as deriving from local special efforts.

Transportation improvement programs submitted to UMTA should identify those projects that result from the wheelchair user aspect of the elderly and handicapped special efforts requirement. Compliance with the fixed facilities section of the UMTA elderly and handicapped regulations (49 CFR 609.13) should not be identified as deriving from local special efforts. On the other hand, efforts which go beyond what the fixed facilities section requires (e.g., making an existing subway station wheelchair accessible when the fixed facility regulation does not so require) may be part of the local special effort.

UMTA will not specify a program design to meet the "special efforts" requirement. However, the following examples are illustrative of a level of effort that will be deemed to satisfy this requirement with respect to wheelchair users and semiambulatory persons:

1. A program for wheelchair users and semiambulatory handicapped persons that will involve the expenditure of an average annual dollar amount equivalent to a minimum of five percent of the section 5 apportionment to the urbanized area. These "five percent funds" may be derived from sources other than section 5. The term "average" permits lower expenditure years to be balanced by higher expenditure years but does not permit an initial delay in implementing projects. The term "section 5 apportionment" refers to UMTA's formula apportionment for areas with a population of 200,000 or more and to the Governor's apportionment for areas with a population under 200,000. Projects that qualify as local "special efforts" for wheelchair users and other semiambulatory persons under the initial paragraphs of this advisory information would be counted in computing the five percent.

2. Purchase of only wheelchair-accessible new fixed route equipment until one-half of the fleet is accessible, or, in the alternative, provision of a substitute service that would provide comparable coverage and service levels.

3. A system, of any design, that would assure that every wheelchair user or semiambulatory person in the urbanized area would have public transportation available if requested for 10 round-trips per week at fares comparable to those which are charged on standard transit buses for trips of similar length, within the service area of the public transportation authority. The system could, for example, provide trip coupons to individuals who would then purchase the needed service.

These examples are illustrative of a level of effort that will satisfy the "special efforts" requirement. They are not regulatory standards or minimums, neither do they exhaust all valid approaches. They are meant to guide the development of local public transportation opportunities for wheelchair users and semiambulatory persons that in fact meet a significant fraction of the identified need within a reasonable time.

[FR Doc.76-12679 Filed 4-29-76;8:45 am]

The following material is added to the appendix to 23 CFR Part 450, Subpart A:

APPENDIX

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ADVISORY INFORMATION ON PLANNING FOR ELDERLY AND HANDICAPPED PERSONS UNDER UMTA AND FHWA JOINT REGULATIONS, 23 CFR 450, SUBPARTS A AND C, AND 49 CFR 613, SUBPARTS A AND B.

1. *Background.* Section 16(a) of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1612), declares the national policy that elderly and handicapped persons have the same right as other persons to utilize mass transportation facilities and services; directs that special efforts be made in the planning and design of mass transportation facilities and services so that the availability of mass transportation which elderly and handicapped persons can effectively utilize will be assured, and directs that all federal programs offering assistance in the field of mass transportation contain provisions implementing this policy. Section 165(b) of the Federal-Aid Highway Act of 1973, as amended, contains a similar provision applicable to title 23 mass transportation assistance.

Pursuant to the planning requirements established for urbanized areas in title 23 and the Urban Mass Transportation Act of 1964, as amended, UMTA and FHWA have jointly issued regulations (23 CFR Part 450 and 49 CFR Part 613) that require the urban transportation planning process to include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons. The purpose of this supplementary statement is to provide additional guidance on the special efforts requirement.

2. *General.* Elderly persons and the ambulatory handicapped constitute a significant fraction of present transit ridership. General improvement to transit service can thus be expected to improve conditions for these groups. UMTA's equipment design requirements are meant to ensure that transit equipment is made comfortable and attractive for these users.

Particular care should be directed toward serving the travel needs generated by concentrations of the elderly. The service provided to areas with a high proportion of elderly residents is required to be shown in applications to UMTA for capital or operating assistance.

The focus of this guidance is on service to persons who, because of age or disability, are unable to utilize present transit service and facilities effectively, particularly those who use wheelchairs or other mobility aids which are not accommodated by current bus design. In many communities, persons who use wheelchairs or who otherwise have considerable difficulty negotiating steps find public transportation impossible to use for physical reasons, and private transportation-for-hire (e.g., special taxicab service, medicab, etc.) prohibitively expensive. Specific planning for this group is central to meeting the special efforts requirement.

3. *Consumer representation.* Section 450.120 of the joint planning regulations requires that the planning process include provisions to ensure involvement of the public. Elderly and handicapped persons, including wheelchair users and semiambulatory persons, are a part of the public and should be appropriately involved in the planning process to meet the special efforts requirement. The MPO must describe in what ways such persons, including wheelchair users and semiambulatory persons, were involved in the planning and programing process. Further, it is presumed to be unlikely that effective project development to meet the needs of these users can occur without the assistance and cooperation of such persons, including wheelchair users and semiambulatory persons, and of public and private health and welfare agencies and handicapped consumer groups.

4. *Special efforts, urban transportation planning process.* The urban transportation planning process must include special efforts to plan public mass transportation facilities and service that can effectively be utilized by elderly and handicapped persons. As used in this guidance, the term "special efforts" refers both to service for elderly and handicapped persons in general and specifically to service for wheelchair users and semiambulatory persons. With regard to transportation for wheelchair users and others who cannot negotiate steps, "special efforts" in planning means genuine, good-faith progress in planning service for wheelchair users and semiambulatory handicapped persons that is reasonable by comparison with the service provided to the general public and that meets a significant fraction of the actual transportation needs of such persons within a reasonable time period. Particular attention should be given to those handicapped persons who are employed or for whom the lack of adequate transportation constitutes the major barrier to employment or job training.

In order to fulfill the special efforts requirement in planning it will be necessary to identify the location and transportation needs of wheelchair users and semiambulatory handicapped persons within the urbanized area. To the extent possible this information should be derived from existing and secondary sources. Primary consideration should be given to self-identification techniques, i.e., asking the handicapped to identify themselves and report their transportation needs to the planning body, as opposed to elaborate search techniques.

In carrying out planning for wheelchair users and semiambulatory persons, a range of alternative service improvements should be evaluated as to coverage, cost, and benefit. Maximum feasible opportunity should be given to private carriers, whether or not they are presently providing mass transportation services, to provide some or all of the services selected.

Considerable short-term benefit can be derived from the coordination and rationalization of existing resources and services to meet the needs of the elderly and handicapped, including wheelchair users and semiambulatory handicapped persons. Governmental health and welfare agencies and private nonprofit organizations spend substantial sums each year to provide or purchase transportation for their clients, and these resources as well as any reduced fare local taxi service should be considered for inclusion in a local coordinated plan.

Finally, the planning process should produce a discussion of the process under which the alternatives were evaluated and the rationale for selection of the service improvement or improvements.

[FR Doc.76-12678 Filed 4-29-76;8:45 am]

Accordingly, 49 CFR Chapter VI is amended by adding a new Part 609, to read as set forth below.

Effective date. This part becomes effective on May 31, 1976.

Issued in Washington, D.C., on April 27, 1976.

ROBERT E. PATRICELLI,
Urban Mass Transportation Administrator.

Sec.
609.1 Purpose.
609.3 Definitions.
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609.9 Transportation planning in nonurbanized areas.
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609.13 Fixed facilities.
609.15 Buses.
609.17 Rapid rail vehicles.
609.19 Light rail vehicles.
609.21 Other vehicles.
609.23 Reduced fare.
609.25 Waiver.

AUTHORITY: Secs. 5 and 16, Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1604, 1612); sec. 165(b), Federal-Aid Highway Act of 1973, as amended (23 U.S.C. 142 nt.); sec. 504, Rehabilitation Act of 1973 (29 U.S.C. 794); 49 CFR 1.51.

§ 609.1 Purpose.

The purpose of this part is to establish formally the requirements of the Urban Mass Transportation Administration (UMTA) on transportation for elderly and handicapped persons.

§ 609.3 Definitions.

As used herein:

"Elderly and handicapped persons" means those individuals who, by reason of illness, injury, age, congenital malfunction, or other permanent or temporary incapacity or disability, including those who are nonambulatory wheelchair-bound and those with semiambulatory capabilities, are unable without special facilities or special planning or design to utilize mass transportation facilities and services as effectively as persons who are not so affected.

§ 609.5 Applicability.

(a) This part, which applies to projects approved by the Urban Mass Transportation Administrator on or after May 31, 1976, applies to all planning, capital, and operating assistance projects receiving Federal financial assistance under sections 3, 5, or 9 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1602, 1604, or 1607a), and nonhighway public mass transportation projects receiving Federal financial assistance under: (1) subsection (a) or (c) of section 142 of title 23, United States Code; and (2) paragraph (4) of subsection (e) of section 103, title 23, United States Code. However, under certain circumstances evident in sections 609.13 through 609.21, the latter sections apply to fixed facilities and vehicles included in projects approved before May 31, 1976. Sections in this part on capital assistance applications, fixed facilities, and vehicles apply expressly to capital assistance projects receiving Federal financial assistance under any of the above statutes.

§ 609.7 Transportation planning in urbanized areas.

General requirements for transportation planning in urbanized areas are found in joint UMTA-Federal Highway Administration regulations (23 CFR Part 450 and 49 CFR Part 613). These regulations require the urban transportation planning process to include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons. UMTA and FHWA have added a supplementary statement on the special efforts requirement as an appendix to the joint planning regulations. Satisfactory special efforts in this area is an express condition (49 CFR 613.204) for UMTA project approvals required by 23 CFR 450.320, and UMTA has added a supplementary statement on that requirement as an appendix to 49 CFR Part 613.

§ 609.9 Transportation planning in nonurbanized areas.

Before a capital assistance project can be approved in a nonurbanized area, the local planning process must include special efforts to plan public mass transportation facilities and services that can effectively be utilized by elderly and handicapped persons.

§ 609.11 Applications for capital or operating assistance.

Applications for capital or operating assistance shall include assurance(s) and descriptive material on transportation for elderly and handicapped persons in accordance with current application instructions.

§ 609.13 Fixed facilities.

(a) Except as otherwise provided in paragraph (c) of this section, every fixed facility—including every station, terminal, building or other facility—designed, constructed, or altered on or after May 31, 1976, with UMTA assistance, the intended use for which will require either that such fixed facility be accessible to the public or may result in the employment therein of physically handicapped persons, shall be designed, constructed, or altered in accordance with the minimum standards in the "American Standard Specifications for Making Building and Facilities Accessible to, and Usable by, the Physically Handicapped, Number A117.1—R 1971," approved by the American Standards Association, Inc. (subsequently changed to American National Standards Institute, Inc.) (ANSI).

(b) In addition to the ANSI standards of paragraph (a) of this section, the following standards apply to rail facilities covered by that paragraph:

(1) Travel distance for wheelchair users: In designing new underground or elevated transit stations, careful attention should be given to the location and number of elevators or other vertical circulation devices in order to minimize the extra distance which wheelchair users and other persons who cannot negotiate steps may have to travel compared to nonhandicapped persons.

(2) International accessibility symbol: The international accessibility symbol shall be displayed at wheelchair accessible entrance(s) to buildings that meet the ANSI standards.

(3) Fare vending and collection systems: Transit fare vending and collection systems shall be designed so as not to prevent effective utilization of the transportation system by elderly and handicapped persons. Each station shall include a fare control area with at least one entrance with a clear opening at least 32 inches wide when open.

(4) Boarding platforms: All boarding platform edges bordering a drop-off or other dangerous condition shall be marked with a warning device consisting of a strip of floor material differing in color and texture from the remaining floor surface. The design of boarding platforms for level-entry vehicles shall be coordinated with the vehicle design in order to minimize the gap between platform and vehicle doorway and to permit safe passage by wheelchair users and other elderly and handicapped persons.

(c) The standards established in paragraphs (a) and (b) of this section do not apply to:

(1) The design, construction, or alteration of any portion of a fixed facility which need not, because of its intended use, be made accessible to, or usable by, the public or by physically handicapped persons;

(2) The alteration of an existing fixed facility to the extent that the alteration does not involve the installation of, or work on, existing stairs, doors, elevators, toilets, entrances, drinking fountains, floors, telephone locations, curbs, parking areas, or any other facilities susceptible of installation or improvements to accommodate the physically handicapped (the standards do not apply to the unaltered portions or items of an existing fixed facility);

(3) The alteration of an existing fixed facility, or of such portions thereof, to which application of the standards is not structurally possible; and

(4) The construction or alteration of a fixed facility for which a grantee has, prior to May 31, 1976, issued a formal invitation for bids to perform such construction or alteration.

(d) The final project application for any project that includes the design, construction, or alteration of a fixed facility subject to paragraph (a) of this section shall contain one of the following: (1) an assurance that the standards of paragraph (a) of this section will be adhered to in the design, construction, or alteration of such facility; (2) a request for a finding that the project is within one of the exceptions set out in paragraph (c) of this section (the specific exception being identified), with appropriate supporting material; or (3) a request pursuant to section 609.25 for waiver of the standards of paragraphs (a) and (b) of this section, with appropriate supporting material.

§ 609.15 Buses.

(a) The requirements of this section apply to all new transit buses with a length exceeding 22 feet for which an UMTA grantee issues, on or after May 31, 1976 (unless otherwise noted), a formal procurement solicitation containing vehicle specifications approved by PMTA.

(b) Wheelchair accessibility option: Effective [date reserved for later completion], UMTA will concur in transit bus bid packages only if the technical specifications provide for a bus design which permits the addition of a wheelchair accessibility option and if the bid documents require an assurance from each bidder that it offers a wheelchair accessibility option for its buses. The term "wheelchair accessibility option" means a level-change mechanism (e.g., lift or ramp), sufficient clearances to permit a wheelchair user to reach a securement location, and at least one wheelchair securement device.

(c) Steps: The following standards are effective with procurement solicitations issued after [date reserved for later completion]: the vertical distance from a standard 6-inch curb to the first front door step shall not exceed 8 inches; the riser height for each front door step after the first step up from the curb or street level shall also not exceed 8 inches; and the tread depth of steps at both front and rear doors shall be no less than 12 inches.

(d) Priority seating signs: In order to maximize the safety of elderly and handicapped persons, each vehicle shall contain clearly legible sign(s) which indicate that seats in the front of the vehicle are priority seats for elderly and handicapped persons, and which encourage other passengers to make such seats available to elderly and handicapped persons who wish to use them.

(e) Interior handrails and stanchions: (1) Handrails and stanchions shall be provided in the entranceway to the vehicle in a configuration which allows elderly and handicapped persons to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding and fare collection processes. The configuration of the passenger assist system shall include a rail across the front of the interior of the vehicle which shall serve both as an assist and as a barrier to reduce the possibility of passengers sustaining injuries on the fare collection device or windshield in the event of sudden deceleration. The rail shall be located to allow passengers to lean against it for security while paying fares.

(2) Overhead handrail(s) shall be provided which shall be continuous except for a gap at the rear doorway.

(3) Handrails and stanchions shall be sufficient to permit safe on-board circulation, seating and standing assistance, and unboarding by elderly and handicapped persons.

(f) Floor and step surfaces: (1) All floors and steps shall have slip-resistant surfaces.

(2) All step edges shall have a band of bright contrasting color(s) running the full width of the step.

(g) Lighting: (1) Any stepwell immediately adjacent to the driver shall have, when the door is open, at least 2 footcandles of illumination measured on the step tread.

(2) Other stepwells shall have, at all times, at least 2 footcandles of illumination measured on the step tread.

(3) The vehicle doorways shall have outside light(s) which provide at least 1 footcandle of illumination on the street surface for a distance of 3 feet from all points on the bottom step tread edge. Such light(s) shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

(h) Fare collection: The farebox shall be located as far forward as practicable and shall not obstruct traffic in the vestibule.

(i) Destination and route signs: Each vehicle shall have illuminated signs on the front and boarding side of the vehicle.

§ 609.17 Rapid rail vehicles.

(a) The requirements of this section apply to all new rapid rail vehicles for which an UMTA grantee issues, on or after May 31, 1976, a formal procurement solicitation containing vehicle specifications approved by UMTA.

(b) Doorways: (1) Passenger doorways on vehicle sides shall have clear openings at least 32 inches wide when open.

(2) The international accessibility symbol shall be displayed on the exterior of each vehicle operating on a wheelchair accessible rapid rail system.

(3) Audible warning signals shall be provided to alert elderly and handicapped persons of closing doors.

(4) Where the vehicle will operate in a wheelchair accessible station, the design of vehicles shall be coordinated with the boarding platform design in order to minimize the gap between the vehicle doorway and the platform and to permit safe passage by wheelchair users and other elderly and handicapped persons.

(c) Priority seating signs: In order to maximize the safety of elderly and handicapped persons, each vehicle shall contain clearly legible sign(s) which indicate that certain seats are priority seats for elderly and handicapped persons, and which encourage other passengers to make such seats available to elderly and handicapped persons who wish to use them.

(d) Interior handrails and stanchions: (1) Handrails and stanchions shall be sufficient to permit safe boarding, on-board circulation, seating and standing assistance, and unboarding by elderly and handicapped persons.

(2) Handrails, stanchions, and seats shall be located so as to allow a wheelchair user to enter the vehicle and position the wheelchair in a location which does not obstruct the movement of other passengers.

(e) Floor surfaces: All floors shall have slip-resistant surfaces.

§ 609.19 Light rail vehicles.

(a) The requirements of this section apply to all new light rail vehicles for which an UMTA grantee issues, on or after May 31, 1976, a formal procurement solicitation containing vehicle specifications approved by UMTA.

(b) Doorways: (1) Passenger doorways on vehicle sides shall have clear openings at least 32 inches wide when open.

(2) The international accessibility symbol shall be displayed on the exterior of each vehicle operating on a wheelchair accessible light rail system.

(3) Audible warning signals shall be provided to alert elderly and handicapped persons of closing doors.

(4) The design of level-entry vehicles shall be coordinated with the boarding platform design in order to minimize the gap between the vehicle doorway and the platform and to permit safe passage by wheelchair users and other elderly and handicapped persons.

(c) Priority seating signs: In order to maximize the safety of elderly and handicapped persons, each vehicle shall contain clearly legible sign(s) which indicate that certain seats are prioriy seats for elderly and handicapped persons, and which encourage other passengers to make such seats available to elderly and handicapped persons who wish to use them.

(d) Interior handrails and stanchions: (1) On vehicles which require use of steps in the boarding process, handrails and stanchions shall be provided in the entranceway to the vehicle in a configuration which allows elderly and handicapped persons to grasp such assists from outside the vehicle while starting to board, and to continue using such assists throughout the boarding process.

(2) On level-entry vehicles, handrails, stanchions, and seats shall be located so as to allow a wheelchair user to enter the vehicle and position the wheelchair in a location which does not obstruct the movement of other passengers.

(3) On all vehicles, handrails and stanchions shall be sufficient to permit safe boarding, on-board circulation, seating and standing assistance, and unboarding by elderly and handicapped persons.

(e) Floor and step surfaces: (1) All floors and steps shall have slip-resistant surfaces.

(2) Any step edges shall have a band of bright contrasting color(s) running the full width of the step.

(f) Lighting in step-entry vehicles: (1) Any stepwell immediately adjacent to the driver shall have, when the door is open, at least 2 footcandles of illumination measured on the step tread.

(2) Other stepwells shall have, at all times, at least 2 footcandles of illumination measured on the step tread.

(3) The vehicle doorways shall have outside lights which provide at least 1 footcandle of illumination on the street surface for a distance of 3 feet from all points on the bottom step tread edge. Such lights shall be located below window level and shielded to protect the eyes of entering and exiting passengers.

§ 609.21 Other vehicles.

Requirements for vehicles not covered by sections 609.15, 609.17, or 609.19 will be determined by UMTA on a case-by-case basis as part of the project approval process.

§ 609.23 Reduced fare.

Applicants for financial assistance under section 5 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1604), must, as a condition to receiving such assistance, give satisfactory assurances, in such manner and form as may be required by the Urban Mass Transportation Administrator and in accordance with such terms and conditions as the Urban Mass Transportation Administrator may prescribe, that the rates charged elderly and handicapped persons during non-peak hours for transportation utilizing or involving the facilities and equipment of the project financed with assistance under this section will not exceed one-half of the rates generally applicable to other persons at peak hours, whether the operation of such facilities and equipment is by the applicant or is by another entity under lease or otherwise.

§ 609.25 Waiver.

The requirements set forth in this part may be modified or waived on a case-by-case basis upon application to the Urban Mass Transportation Administrator if the Administrator determines that such modification or waiver is clearly necessary and is consistent with the intent of the laws cited under "Authority." However, a modification or waiver of paragraph 609.13(a) for a building covered by P.L. 90-480 will also require the approval of the Administrator of General Services. Any request for modification or waiver should be presented for comment at the public hearing required prior to submission of a project application to UMTA. In the event that the waiver is not presented at the hearing, the Urban Mass Transportation Administrator may require a new public hearing if he finds that the requested waiver would have a substantial effect on the accessibility of the facility or equipment to elderly and handicapped persons.

[FR Doc.76-12677 Filed 4-29-76;8:45 am]

SURVEYS

Sample surveys included in this appendix are from the following systems:

- Ann Arbor, Michigan - On-board survey for a general market system.
- Syracuse, New York - On-board survey for a target market system.
- Chicago, Illinois - Medical certification form and special transportation planning survey.
- Tuskegee, Alabama - Senior citizens survey of unmet transportation needs.
- SYSTAN survey form used to solicit system information.

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ANN ARBOR, MICHIGAN, ON-BOARD SURVEY

HELLO THERE!! IN EXCHANGE FOR A FEW MINUTES OF YOUR TIME, WOULD YOU HELP THE ANN ARBOR TRANSPORTATION AUTHORITY IMPROVE ITS BUS SERVICE TO YOU? YOUR COOPERATION IS GREATLY APPRECIATED.

1. Where did you begin this trip?

   _____
   (specify address, building, store, etc)

2. What is your final destination?

   _____
   (specify address, building, store, etc)

3. How many vehicles (city buses plus Dial-a-Ride vans) are you riding on this trip?

   ☐ one ☐ two ☐ three ☐ four

4. What is the next vehicle you will ride on this trip? (check one)

   ☐ a city bus
   ☐ another Dial-a-Ride van
   ☐ none -- this van will drop me at my destination.

5. If you telephoned for this ride, check here ☐ and answer questions 7 through 12.
   If you did not telephone for this ride, check here ☐ and answer question 6 only.

6. How long did you wait for this van to come by?

   ☐ 0-5 minutes ☐ 5-10 minutes ☐ 10-15 minutes ☐ 15-20 minutes ☐ 20-25 minutes ☐ 25-30 minutes ☐ 30 minutes or more

PLEASE RETURN THIS CARD WHEN YOU EXIT THE VAN. THANK YOU FOR YOUR COOPERATION!!

7. At what time did you place your telephone call to Dial-a-Ride? _____ AM / PM

8. How many times did you get a "busy" signal before you got your call through?

   ☐ none ☐ once ☐ twice ☐ three or more times

9. How long did you wait on "hold" for a call-taker to answer you?

   ☐ 0-1 minute ☐ 1-2 minutes ☐ 2-3 minutes ☐ 3-4 minutes ☐ 4 minutes or more

10. When you called in to request Dial-a-Ride service, did you call --

    A. ☐ for immediate pickup.

    B. ☐ for pickup at a later time. If so, what was that time? _____ AM / PM

11. What time did the call-taker tell you the van would pick you up?

    Between _____ and _____ AM / PM

12. Answer only if you marked A in question 10: How long was it from the end of your call to the arrival of the van?

    ☐ 0-5 minutes ☐ 5-10 minutes ☐ 10-15 minutes ☐ 15-20 minutes ☐ 20-25 minutes ☐ 25-30 minutes ☐ 30 minutes or more

PLEASE RETURN THIS CARD TO THE SURVEYOR WHEN YOU EXIT THE VAN. THANKS VERY MUCH !!!

CALL-A-BUS ON-BOARD SURVEY

Syracuse, New York

This survey is being conducted by the Call-A-Bus staff in order to help us assess how well Call-A-Bus is satisfying your transportation needs. Your taking the time to complete this form will greatly assist us in our efforts to provide better service. Please return the questionnaire to the volunteer (or driver) before leaving the bus. (Do not disturb the driver while he is driving, however. If you do not understand a question, do not attempt to answer it.) All responses will remain strictly confidential. Thank you for your help.

PLEASE DO NOT WRITE IN THESE BOXES

1. Are you:

   1. Male ____
   2. Female ____

☐

2. In what age group do you belong?

   1. Under 55 ____
   2. 55 - 59 ____
   3. 60 - 64 ____
   4. 65 - 69 ____
   5. 70 - 74 ____
   6. 75 - 79 ____
   7. 80 and over ____

☐

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3. Where did you <u>first</u> hear about Call-A-Bus?

   1. Friends or relatives ____
   2. Social service agency ____
   3. Newspaper ____
   4. TV or Radio ____
   5. Information handout ____
   6. Other (specify) _____

☐

4. From where or whom did you get <u>most</u> of your information about Call-A-Bus (such as fares, hours of service, how to request service, etc.)?

   1. Friends or relatives ____
   2. Social service agency ____
   3. Newspaper ____
   4. TV/Radio ____
   5. Call-A-Bus drivers ____
   6. From telephoning Call-A-Bus ____
   7. Information handouts ____
   8. Other (specify)

☐

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5. When did you first use Call-A-Bus?

1. Today _____
2. This month _____
3. 1 - 6 months ago _____
4. 6 - 12 months ago _____
5. Over a year ago _____

6. How often do you use Call-A-Bus?

1. Over 3 times a week _____
2. 2 or 3 times a week _____
3. Once a week _____
4. 2 or 3 times a month _____
5. Once a month or less _____

7. Will you use Call-A-Bus for a round-trip today, or just one-way?

1. Round-trip _____
2. One-way _____

If one-way, how did you or will you travel the other way?

1. Walk _____
2. Regular bus _____
3. Someone drives me _____
4. Taxi _____
5. Other (specify) _____

8. What is the reason for your trip on Call-A-Bus today?

1. Medical _____
2. To or from work _____
3. Agency program _____
4. Shopping _____
5. Personal visit _____
6. Recreation _____
7. Personal business _____

9. If it were not for the existence of Call-A-Bus, how would you make this trip?

1. I would not make this trip _____
2. Drive a car myself _____
3. Someone would drive me _____
4. Regular bus _____
5. Taxi _____
6. Walk _____
7. Other (specify) _____

10. How much of your local travel is now done by Call-A-Bus?

1. All or most all _____
2. Most of it _____
3. Some of it _____
4. Very little _____

☐

11. Please rate the following aspects of Call-A-Bus service: (place a check mark in the appropriate blank)

	(1) EXCELLENT	(2) GOOD	(3) FAIR	(4) POOR	
COURTESY AND HELPFULLNESS OF DRIVERS	____	____	____	____	☐
COURTESY AND HELPFULLNESS OF TELEPHONE STAFF	____	____	____	____	☐
AVAILABILITY OF CALL-A-BUS SERVICE WHEN NEEDED	____	____	____	____	☐
EASE OF REQUESTING SERVICE BY TELEPHONE	____	____	____	____	☐
CONVENIENCE OF HAVING TRIPS CONFIRMED BY TELEPHONE	____	____	____	____	☐
CONVENIENCE FOR SCHEDULING RETURN TRIPS	____	____	____	____	☐
FARE CHARGED BY CALL-A-BUS	____	____	____	____	☐
COMFORT OF BUS RIDE	____	____	____	____	☐
PROMPTNESS OF CALL-A-BUS ARRIVING WHEN PROMISED	____	____	____	____	☐
RELIABILITY OF CALL-A-BUS FOR KEEPING APPOINTMENTS	____	____	____	____	☐
TRAVEL TIME ON CALL-A-BUS (LENGTH OF TRIP)	____	____	____	____	☐
OPPORTUNITY TO MAKE NEW FRIENDS ON CALL-A-BUS	____	____	____	____	☐
AVAILABILITY OF INFORMATION ON CALL-A-BUS	____	____	____	____	☐

A10

City of Chicago

Michael A. Bilandic, Mayor
Robert J. Ahrens, Director
Andree Oliver, Deputy Director

180 North LaSalle Street
Chicago, Illinois 60601
Phone 312/744-4016

DIVISION FOR REHABILITATION - MEDICAL CERTIFICATION FORM

INSTRUCTIONS TO PHYSICIAN

We ask your cooperation in completing this certification form to determine whether or not your patient is eligible to use the Transportation Services for the Handicapped. The completed form should be mailed to the Mayor's Office for Senior Citizens and Handicapped, Division for Rehabilitation, 180 North LaSalle Street, Chicago, Illinois (60601) either by yourself or your patient. Thank you for your cooperation.

TO BE COMPLETED BY PHYSICIAN

This is to certify that _____
(name)

meets (___) does not meet (___)

at least one of the following eligibility criteria and that the disability is expected to last at least one year from the date of certification:

1. is confined to a wheelchair;

2. cannot stand or walk without the assistance of a leg or back brace, crutches, a walker, a prosthetic device, or the aid of another person and, because of this physical impairment, cannot utilize public mass transportation facilities (excluding taxicabs) which operate in the City of Chicago;

3. is legally blind and, because of this impairment, cannot utilize public mass transportation (excluding taxicabs) which operate in the City of Chicago.

Is attendant care necessary for this person while traveling? _____

Additional comments: _____

_____

This certification is rendered on the basis of my medical judgment.

Signature _____ Date _____

_____ City _____ Zip _____
(print or type name)

Office address _____ Office telephone _____

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SPECIAL TRANSPORTATION REQUEST

NAME _____ DATE OF BIRTH _____

ADDRESS _____ ZIP _____ APT.No./Floor _____

PHONE: Home _____ Work _____

NATURE OF DISABILITY _____ DIAGNOSIS _____

For planning purposes we would like to get some idea of how often you will be using this service. Please be as realistic as you can in answering the following questions. You will not be limited in the number of trips you will be able to take on this system by the answers you give here.

1. An individual trip is a trip in one direction between any two points. For example, a visit to your doctor and your subsequent return home would count as two individual trips.

   How many individual trips do you expect to take each week on this bus system for the following purposes? (If less than one per week skip to question 2 below).

   _____ Medical purposes (doctor's office, hospital clinic, therapy center, etc.)

   _____ Employment purposes (any activity for which you are paid a salary or wage).

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2. If you expect to make less than one individual trip in a week, how many will you make each month?

   _____ Medical purposes

   _____ Employment purposes

3. Which day (days) of the week do you expect to travel? Circle all applicable days of the week

   Monday Tuesday Wednesday Thursday Friday

4. On what date would you like to begin using this service? _____

5. How long do you expect to use this service? _____ months.

6. Can you leave home and travel alone? YES NO

7. Are you able to use the CTA service? YES NO

8. Are you able to use conventional taxi service? YES NO

9. Do you have an RTA Special Users Travel Card? YES NO

(OVER)

A10

A10

10. Are you a client of the Illinois Division of Vocational Rehabilitation? YES NO

11. Do you have a medical green card from the Illinois Department of Public Aid?
Client I.D. #_____

12. Do you use any assistive devices? _____Walker _____Crutches _____Cane
_____Other (specify) _____

13. CHECK ALL THAT APPLY

_____Age 60 or over _____ Visually Impaired _____Hard of Hearing

_____Wheelchair Bound _____Semi-Ambulatory _____Ambulatory

14. What is (are) your current mode(s) of transportation? _____

15. Are you currently paying for your own transportation YES NO

16. Physician's Name _____

17. The above information is correct to the best of my knowledge.

_____Date_____
Applicant's Signature

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FOR WORK TRIP APPLICANTS ONLY

Trip Origin_____
Address

Destination _____
Building Name/Street Address

Hours of Employment _____

FOR OFFICE USE ONLY

Received by _____Date _____

Approved _____Disapproved_____

Disposition of Case _____

SENIOR CITIZENS SURVEY OF UNMET TRANSPORTATION NEEDS
Tuskegee, Alabama[1/]

WILL YOU TAKE JUST ONE MINUTE
to answer the following questions? The information you provide will help to plan better transportation facilities for the senior citizens in the Tuskegee area. DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE.

Question 1. What is your place of residence? Answer this question by indicating the closest intersection of two nearby streets (i.e. Pearl and Monroe). Do not write your street address.
Intersection of _____ and _____
(fill in) (fill in)

Question 2. Where do you normally travel during the week? List no more than four major destinations, how you travel there, the number of trips per week and the time of day you usually go.

Destination (fill in)	Travel Mode (fill in)	# of Trips (fill in)	Time of Day (fill in)
1.			
2.			
3.			
4.			

Question 3. Do you or members of your household own a car?
Yes _____ No _____
If no, how do you get around? _____
(fill in)

Question 4. Has lack of public transit prevented you from going to certain places? Yes _____ No _____
If yes, where? _____
(fill in)

Question 5. Do you go to any senior citizen activities?
Yes _____ No _____
If yes, answer the following for the four major activities:

Destination (fill in)	Travel Mode (fill in)	# of Trips (fill in)	Time of Day (fill in)
1.			
2.			
3.			
4.			

Question 6. Are you satisfied with your present travel arrangements?
Yes _____ No _____
If no, explain _____
_____
_____

1/ As used by the Senior Citizen Agency of Tuskegee.

SYSTEM DOCUMENTATION

(FOR OPERATING OR DISCONTINUED SYSTEMS)

System Name: _____ Location: _____

Service Objective(s): _____

What is good/bad about your system? _____

_____

_____

_____

_____

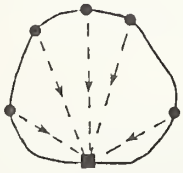
ORGANIZATION (Send Organization Chart if Available)

Sponsor: _____ Operator: _____

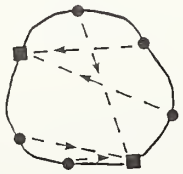
Authority: _____ Consultants: _____

Planner: _____

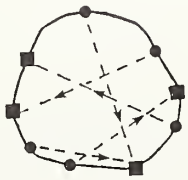
SERVICE TYPE (Check any types which approximate yours):



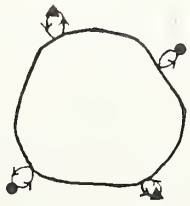
Many-to-One
Peak ☐
Off-Peak ☐



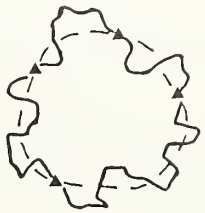
Many-to-Few
Peak ☐
Off-Peak ☐



Many-to-Many
Peak ☐
Off-Peak ☐



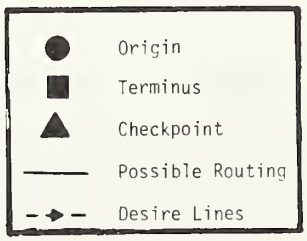
Deviation from Route
Peak ☐
Off-Peak ☐



Deviation from Checkpoint
Peak ☐
Off-Peak ☐

Other, Describe or Draw

Peak ☐
Off-Peak ☐



ELIGIBLE RIDERSHIP

☐ All Public ☐ Elderly ☐ Handicapped ☐ Low Income ☐ Agency Clients Only ☐ Parcels

☐ Other specific groups (commuter, day care, etc.): _____

Integrated With

☐ Local Fixed-Route Bus ☐ Demand-Responsive System in Other Zones ☐ Rail

☐ Intercity Fixed-Route Bus ☐ No Other Service ☐ Other _____

Annual Ridership _____ Year: From ___ To ___ Average Number of Weekday Riders: Total ___ Peak: ___ Off-Peak: ___

Average Group Size Traveling Together: _____ Mean Passenger Trip Length (if taken by auto): _____ miles

FARES

Regular Fare: $_____

Average Revenues per One-Way Person-Trip: $_____

Special Fares: $_____ for: _____

$_____ for: _____

ACCESS

User Access to System:

☐ Phone ☐ Hail ☐ Fixed Stops

☐ Other _____

Pick-Up Points:

☐ House ☐ Designated Points ☐ Hail

Assess Timing:

☐ Immediate Service ☐ Advance Reservation: ____ hrs.

☐ Subscription (standing reservation)

HOURS

	from/a.m.	to/p.m.
Mon-Thurs	_____	_____
Fri	_____	_____
Sat	_____	_____
Sun	_____	_____

STAFF

(If you use part-time employees, give answers in equivalent full-time levels.)

Total Employees: ____ No. in Control Room: ____

No. of Drivers: ____ No. in Maintenance: ____

DRIVERS

____ATU Member ____TWU Member ____Independent Union

____Non-Union ____Volunteer ____Part-Time

____ Other _____

VEHICLES

Use Code for Type: 1=auto; 2=van; 3=small bus; 4=large bus; 5=shared-ride taxi

No. in Fleet: ____ No. Operating: ____ Peak: ____ Off-Peak: ____

Type	Capacity	Seats	Standees	Manufacturer
☐	_____	____	_____	_____
☐	_____	____	_____	_____
☐	_____	____	_____	_____

Vehicles: ☐ Owned ☐ Leased

No. of Vehicles with Wheelchair Lifts: ____ Ramps: ____

Annual Vehicle In-Service Hours: _____

Annual Vehicle In-Service Miles: _____

(Use same year as annual ridership reported)

LEVELS OF SERVICE

Ride Time:

Avg.(mean) _____

Range _____

Promised Wait Time:

Avg.(mean) _____

Range _____

Actual Wait Time (Immediate Request) Avg_____ Range _____

Pick-Up Deviation (Advance Request) Avg_____ Range _____

Vehicle Wait Time for Customers at Pick-Up:

Maximum Time Vehicle Will Wait: _____

Average (mean) Vehicle Waiting Time: _____

Transfer Wait Time Avg _____ Range _____

Arrival Time:

How estimated: ☐ Constant ☐ Function of State of System

Form provided in: ☐ Point estimate ☐ Range of times

When provided: ☐ During request call ☐ By call-back

☐ Confirmed by call-back

HARDWARE AND SOFTWARE

Mobile Communications: ☐ One-Way Paging Device ☐ Telephone ☐ Digital-Printer ☐ Two-Way Radio ☐ Digital-Video

Control Center: ☐ Magnetic Map ☐ Computer: ☐ Dedicated ☐ Time-Shared with Other Functions ☐ No Computer

☐ Other _____

Computer Does: ☐ Address Location ☐ Vehicle Assignment ☐ Route Determination ☐ Management Information

☐ Other _____

SERVICE AREA DESCRIPTION

Population (19__): _____ people. If Target Group Service, Population: _____ people; Service Area Size: _____ square miles.

Description of Service Area (Check as many as apply):

☐ Entire City ☐ Section of City ☐ [illegible] ☐ Suburban Area ☐ Entire County ☐ Rural

If service area is divided into zones, number of zones: _____

Political Wards or Census Tract (give tract numbers) in Service Area: _____

RIDER CHARACTERISTICS

If any ridership surveys have been taken, please send results.

TRANSPORTATION SYSTEM CHARACTERISTICS

Other Transport Available in Service Area:

☐ Taxi ☐ Fixed-Route Bus: No. of Routes _____ Route-Miles _____ Headway: Peak _____ Midday _____

☐ Commuter Rail: No. of Stations _____ ☐ Intercity Rail, Bus ☐ Air Terminal ☐ Sea Terminal

☐ Other _____

SYSTEM DEVELOPMENT

Date of Start of Planning:_____ Date of Decision to Implement:_____ Date of Service Initiation:_____ Discontinued Date:_____

Start-Up Strategy (Check as many as apply):

☐ Small Fleet ☐ Small Service Area ☐ Minimum Advertising ☐ High Fare (to constrain demand)

☐ Service Initiated All At Once ☐ Incremental Growth of Service ☐ Other _____

Previous System:

☐ None ☐ Fixed Route: ☐ Replaced All Fixed Routes ☐ Replaced Some Fixed Routes ☐ Other _____

Service Changes:

Date	Type of Change	Impact

How did you estimate potential demand before inaugurating the system:

☐ Rules of thumb, based on _____ ☐ Looked at other systems

☐ Didn't; started system incrementally ☐ Estimated modal split based on existing transit users

☐ Used more formal models based on characteristics of existing users ☐ Other _____

ow did you estimate fleet size and staff requirements:

☐ Based on demand estimates using: ☐ Rule of thumb, based on _____ ☐ Model, based on _____

☐ Determined by funding constraints ☐ Other _____

Did you estimate levels of service (wait time, ride time, etc.)? ☐ Yes ☐ No

How? ☐ Level of service given as basic requirement ☐ Used model based on vehicle supply and demand ☐ Other _____

FUTURE PLANS

	Describe	Date
☐ New Services Anticipated		
☐ Expanded Service Area		
☐ New Equipment		
☐ New Operating Strategy		
☐ New Service Area		
☐ Experimental Project		

FINANCE

Total Capital Costs: $_____

Operating Costs/Year:

Vehicle Operating Cost/Year	$_____
Maintenance Cost/Year	$_____
Control Room Cost/Year	$_____
Administration and Marketing Cost/Year	$_____
Capital Cost/Year	$_____
Other Cost/Year Not Listed Above	$_____
Total Cost/Year	$_____
Revenue Per Year	$_____

Average Wage Rate: Drivers: $____ (__% fringe benefits);

Maintenance: $____ (__% fringe benefits)

Funding Sources:

Federal	_____%	UMTA Section 5 ___; Other _____
State	_____%	Tax Source: _____
County	_____%	Tax Source: _____
City	_____%	Tax Source: _____
Special District	_____%	Tax Source: _____
Local Organization	_____%	Name: _____
		Source: _____

INSTITUTIONAL ISSUES

Were problems experienced in any of the following areas?

	Severe	Minor Problem	No Problem
Regulations, Legal	☐	☐	☐
Permits or Licensing	☐	☐	☐
Insurance	☐	☐	☐
Labor: Contract	☐	☐	☐
Work Rules	☐	☐	☐
Funding	☐	☐	☐
Community Response	☐	☐	☐
Political Response	☐	☐	☐

If severe problems were experienced, please explain:

____

____

____

____

COMMENTS

Please use this section to elaborate on any institutional problems encountered or to comment on any of the following items:

- o Information you needed for system development and didn't have;
- o Information you found to be useful;
- o Pitfalls to avoid;
- o Why the system succeeds/does not succeed;
- o Problem areas needing attention.

____

____

____

____

____

Name of person filling in data: ____________ Organization/Telephone No. ____________

- -

____

____

____

TO: ROY L. LAVE
SYSTAN, INC.
P.O. BOX U
LOS ALTOS, CA 9402.

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OPERATING FORMS

SAMPLE OPERATING FORMS

1. Request for Service
2. Dispatch Log Sheet
3. Controller Evaluation Checklist
4. Driver's Trip Sheet
5. Driver's Log Route Schedule
6. Driver's Log
7. Daily Vehicle Checklist
8. Driver Evaluation Checklist
9. Daily Inspection and Servicing Report
10. Weekly Time and Payroll Record

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INTERNAL OPERATION FORMS/
REQUESTS FOR SERVICES

☐ CW	☐ CCW
	Number ☐
Name	in party
Pickup Address/Place	
Sector ☐	Deviation ☐
Dropoff Address/Place	
Sector ☐	Deviation ☐
Telephone No.	Date / Time
Comments/Spec Instructions	
	10/71

Figure 29 - Order Card - Columbus, Ohio

PERMANENT BOOKING APPLICATION

ZONE: _____

REGINA TRANSIT SYSTEM TELEBUS SERVICE

INFORMATION TO BE GIVEN WHEN PLACING CALL:-

NAME _____

ADDRESS _____

PHONE NO. _____

DESTINATION _____

WORK HOURS _____

DAYS REQUIRED _____

PICK-UP TIME _____

STARTING _____ FINISH _____

CALL RECEIVED BY _____

FARE: _____

(Source 4)

INFORMATION PROCESSING
Sample Dispatch Log Sheet

BAY RIDGES - FRENCHMAN'S BAY
MINIBUS RESERVATION

DATE _____ TRAIN ARRIVAL _____

CALL TIME	ADDRESS	NO. OF PASSENGERS	TELEPHONE NUMBER	ZONE
			CYCLE No.1	
	Note - Dispatcher establishes this separation depending on volume of reservation		CYCLE No.2	

Advance User's Record

REGINA TRANSIT SYSTEM

TELEBUS PROJECT - DISPATCH RECORD

ZONE _____
DAY _____
WEATHER _____

	Rte.2	Rte.7	Rte.9
Main line bus arrival time			
Mainline Bus No.			

DESTINATION CODES:-

U - UNIVERSITY
G - GOV'T BLDGS.
DA - DOWNTOWN ALBERT ST.
DB - DOWNTOWN BROAD ST.
C - CAMPBELL COLL.
S - SHELDON COLL.
P - GOLDEN MILE PLAZA
W - WASCANA HOSPITAL

REMARKS CODES:- (INCLUDE RESERVATION DATES)
NS (NO SHOWS) LC (LATE CALL)

NAME	ADDRESS	PICK-UP TIME	DEST.	# OF PASS.	PHONE NUMBER	REMARKS

Dispatcher's Log

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(Reference: 4)

CONTROLLER EVALUATION CHECKLIST

Check all of the following that apply:

1. Trainee's telephone manner is: Cheerful?_____ Helpful?_____

   Pleasant?_____ Knowledgeable?_____

Check yes or no for each:	YES	NO
2. Trainee must use map frequently?	_____	_____
3. Trainee sorts trips into tours rapidly?	_____	_____
4. Trainee uses dispatch tools correctly? (dispatch cards, board, radio)	_____	_____
5. Trainee's radio manner is proper and professional?	_____	_____
6. Trainee has rapport with drivers?	_____	_____
7. Trainee is aware of all vehicle locations?	_____	_____
8. Trainee keeps vehicles spaced evenly?	_____	_____
9. Trainee remains calm under pressure?	_____	_____

(Reference: 43)

A11

CALL-A-BUS

DRIVERS' TRIP SHEETS

Syracuse, New York

PLEASE BE GENTLE, KIND AND PATIENT

DAY	DATE	CALL-A-BUS	OPERATOR	NO. PAS.	REV.	MILES	HOURS	BUS NO.	F. BOX NO.	PAGE

TIME	ADDRESS	FUNCTION	NAME/NO.	FARE	SPECIAL NOTE
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING
		Pick-up Drop-off		50/60/75	BLIND DISABLED WHEELCHAIR REQUIRES HELP BOARDING

SAMPLE DRIVERS LOG

ROUTE SCHEDULE

SIGNED DRIVER _____ DATE _____
ODOMETER START _____ END _____ TOTAL MILES _____
TOTAL HOURS _____

Scheduled Pick-Up Time	Pick-Up Point	Destination	No Show	No. Served	Actual Pick-Up Time	Time of Arrival	Odometer at Time of Arrival

Total _____

(Reference: 56)

SAMPLE DRIVERS LOG

NO. _____ DATE _____

MODEL CITIES DIAL-A-RIDE DRIVER'S LOG BUS # _____ TRANSIT COLOR _____

TIME _____

KT1-618 CALL LETTERS AND NUMBER DRIVER _____

Check Point No.	Time Arr. at Check Point	Pick Up or Drop P/D	Pick Up Place/Address	Deviation	Passenger's Dest. Place/Address	Sex M/F	ADULT'S FARE				CHILDREN'S FARE			
							Cash	Mod. Cit.	CTC Tran.	CTC Tic.	Cash	Mod. Cit.	CTC Tran.	CTC Tic.

Legend: Mod. Cit. = Model Cities
CTC Trans. = CTC Transfer
CTC Tic. = CTC Ticket

(Reference: 4)

A11

DAILY VEHICLE CHECKLIST
Fill Out While Fueling

Driver #1 Name _____ Mileage _____

Driver #2 Name _____

Vehicle Number _____ Ending Mileage _____

Date _____

	OK	LOW
- Oil Level		/
- Radiator coolant level		
- Brake fluid level		
- Battery fluid level		
- Windshield washer fluid level		

CHECK OPERATION:

- Lights	R front	L front	R rear	L rear
turn signals	/	/	/	
headlights	/	/	/	
brake lights	/	/	/	
brights	/	/	/	

- Tires (describe damage, wear, etc.)
  - right front _____
  - left front _____
  - right rear _____
  - left rear _____
- Safety equipment _____
- Fresh interior damage _____
- Fresh exterior damage _____

MAINTENANCE ACTIONS TAKEN (fill out while fueling)

Time at fueling _____

Mileage at fueling _____

- Amount of fuel added _____ gals.
- Amount of oil added _____ qts.

	Yes	No
- Radiator coolant added		/
- Battery water added		/
- Brake fluid added		/
- Windshield washer fluid added		/
- Air in tires		/

- OTHER actions taken (replace bulb, change fan belt, etc.): _____

_____

DRIVER EVALUATION CHECKLIST

Trainee's Name_____Assigned Zone_____Date_____

Please check yes or no for each of the following.	YES	NO
1. Does trainee make a smooth start? stop?	____	____
2. Is trainee cautious at intersections?	____	____
3. Does trainee maintain proper braking distance?	____	____
4. Does trainee consistently make correct left turns?	____	____
Does trainee consistently make correct right turns?	____	____
5. Does trainee back the vehicle correctly?	____	____
6. Does trainee keep to right side of the road?	____	____
7. Is trainee's attitude toward other motorists on the streets satisfactory?	____	____
8. Does trainee follow proper procedures at RR crossings?	____	____
9. Does trainee need more instruction in safety?	____	____
10. Does trainee need more instruction in traffic regulations?	____	____
11. Does trainee need more instruction in handling of equipment?	____	____
12. Does trainee find addresses easily?	____	____
13. Are trainee's routing capabilities adequate?	____	____
14. Does trainee follow correct radio procedures?	____	____
15. Does trainee know what inspection is necessary before taking vehicle out of garage? (Does he/she check tires____, oil____, water____, mirrors____)	____	____
16. In case of accident, does trainee understand that he/she must get name of passengers, occupants of other vehicles, and disinterested persons on cards provided?	____	____
17. Does trainee know the time he/she must report before beginning his/her shift?	____	____
18. Is trainee helpful and pleasant with passengers?	____	____
19. Is trainee able to answer questions about the system (fare, eligibility, dispatch number, service hours)	____	____
Do you recommend that this trainee is a good, careful, and cautious driver?	____	____

I hereby certify that TRAINEE_____ has operated vehicle #_____ in zone_____, and I do____do not_____recommend him/her as an operator for this company.

(Use reverse side for additional remarks).

_____
Regular Driver's Signature

(Reference: 43)

Sample Daily Inspection and Servicing Report

No Go	Items to be Checked	Start	Finish	Defect Description
	Outside			
	Body Damage			
	Exterior Clean			
*	Tires			
	Glass			
	Water Level			
	Oil Level			
	Inside			
	Interior Clean			
*	Oil Pressure			
*	Generator Charging			
*	Fuel Level			
	Lights and Indicators			
	Horn			
*	Windshield Wipers			
	Defroster Fans			
	Horn			
*	Hand Brake			
*	Service Brakes			
*	Steering			
*	Radio			
	Seasonal			
	Front Heater			
	Rear Heater			
	Air Conditioner			

(Check indicates ok condition.) * In NO GO whenever indicated.

Day and Date _____/____/_____ Vehicle No. _____

Odometer Finish _____ Fuel Purchased: Gallons _____

Odometer Start _____ Expense $ _____

Total Miles _____ Oil Purchased: Quarts _____

Expense $ _____

Other Service: Type _____

_____

Time On / Time Off

Expense $ _____

Driver No. 1 _____ _____ _____

Driver No. 2 _____ _____ _____

Driver's Signature

(Reference: 123)

Sample Weekly Time and Payroll Record

Agency _____ Week Ending __/__/__

Name	Daily Hours							Total Hours	Overtime/ Holiday Hours	Rate	Overtime Rate	Total Pay
	Sun.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.					
Drivers												
Subtotal:												
Dispatchers												
Subtotal:												
Other Employees												
Subtotal:												
Total:												

Adapted from Reference 123

FUTURE PARATRANSIT PLANS A12

The following charts list proposed:

(1) New demand-responsive transit services,

(2) Expansion of existing demand-responsive transit services, and

(3) Planning and/or feasibility studies.

These future plans and services were identified from the Transportation Improvement Program (TIP) analyses, and are arranged alphabetically by states. Type of service and market orientation information is included, and may be helpful for those users wishing to identify particular types of future demand-responsive transit services.

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NEW SERVICES

SITE	MARKET/ SERVICE TYPE
Montgomery, AL New user-side subsidy demonstration.	TM/SRT
Carson, CA	TM/DAB
Ceres, CA	TM/DAB
Culver City, CA	TM/DAB
Palm Springs, CA	TM/DAB
Roseville, CA	DAB
San Jacinto, CA	GM/DAB
Simi Valley, CA	TM/DAB
Torrance, CA	DAB
Victor Valley, CA	TM/DAB
East, New and West Haven, CT	TM/DAB
Springfield, CT	TM/DAB
Stamford, CT	DAB
Waterbury, CT	TM/DAB
Ft. Lauderdale, FL Hope to eventually expand and integrate service with route deviation, express and other fixed-route services.	GM/DAB
Lafayette, IN Primarily subscription service.	GM/DAB
Sioux City, IA FHWA Section 147 demonstration.	TM/DAB
Howard County, MD	TM/DAB

(New Services, Continued)

SITE	MARKET/ SERVICE TYPE
Westfield, Hampden and Hampshire Co., MA Coordinated paratransit services-state demonstration project.	GM/SRT
Saginaw County, MI TM/DAB Service operates in Saginaw urban area.	GM/DAB
Saline, MI SEMTA Region	GM/DAB
Livingston, MI	TM/DAB
Wayne, MI	TM/DAB
Oakland, MI	TM/DAB
St. Clair, MI 3 additional GM/DAB services	TM/DAB
Washtenaw, MI Integrate with existing Ann Arbor service	TM/DAB
Duluth, MN	TM/DAB
Rochester, MN Hope to integrate with fixed-route service	TM/DAB
Springfield, MO	TM/DAB
St. Louis, MO	TM/DAB
Bergen Co., NJ	TM/DAB
Middlesex Co., NJ	TM/DAB
Albany, NY Hope to coordinate services with social service agencies.	TM/DAB
Brooklyn, NY	DAB
Rockland Co., NY	TM/DAB
Westchester Co., NY	TM/DAB

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(New Services, Continued)

SITE	MARKET/ SERVICE TYPE
Winston-Salem, NC In planning stage now.	TM/DAB
AKRON, OH DAB with portions sub-contracted to local taxi operators.	TM/DAB SRT
Toledo, OH	TM/DAB
Springfield, OH Initially advanced reservation and subscription service; after established study feasibility of immediate request service	TM/DAB
Lawton, OK	GM/SRT
Altoona, PA	TM/DAB
Erie, PA	TM/DAB
Johnstown, PA	TM/DAB
Lehigh Valley, PA	TM/DAB
Pittsburgh, PA Hope to coordinate services with broker-demonstration.	TM/DAB
Scranton, PA	TM/DAB
Sioux Falls, SD New subsidy program.	TM/DAB SRT
Brownsville, TX Also studying eligibility and marketing possibilities.	TM/DAB
Dallas/Ft. Worth-Suburban communities, TX (Irving, Garland, Richardson, Grapevine, Grand Prairie, Mesquite, Ricbland Hills) Hope to initiate geeder, subscription and immediate DRT services	TM GM/DAB
Fort Worth, TX Initiate flexible route neighborhood collection transit service and coordinate with other services.	TM/DAB GM/DAB

(New Services, Continued)

SITE	MARKET/ SERVICE TYPE	SITE	MARKET/ SERVICE TYPE
Bountiful, VT Initially only subscription service; hope to later expand to allow immediate request DRT service.	TM/DAB		
Arlington, VA	GM/SRT		
Richmond, VA Plan to coordinate taxi, 16(b)(2) providers and other transportation services	TM/DAB SRT		
Tacoma, WA	TM/DAB		
Dane Co., WI	TM/DAB		

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EXPANSION OF EXISTING SERVICES

SITE	MARKET/ SERVICE TYPE
Phoenix Region, AZ	
Glendale, AZ Expand service area to include Phoenix	GM/DAB
Mesa, AZ Expand shared ride taxi service	GM/SRT
Scottsdale, AZ Initiate new services- hope to integrate with fixed route service	TM GM/SRT
Little Rock, AR Expand capital to include handicapped vehicles; receives no public funding	GM/SRT
Arcadia, CA	GM/DAB GM/SRT
Corona, CA	GM/DAB
El Cajon, CA New reimbursement strategy	GM/SRT
Fresno, CA Plans to expand existing target market service. Initiate new shared-ride taxi service and cut back low demand fixed-route evening service.	TM/DAB GM/SRT
Fullerton, CA	GM/SRT DAB
Hollywood/Westlake/Wilshire, CA	GM/DAB
La Habra, CA	GM/DAB
La Mirada, CA	GM/DAB
Lompoc/Santa Barbara, CA Also studying for future expansion to entire Lompoc Urban Area and Santa Barbara County	GM/DAB

(Expansion of Existing Services, Continued)

SITE	MARKET/ SERVICE TYPE
Manhatten Beach, CA	TM/DAB
Merced, CA	GM/DAB
Montebello, CA	GM/DAB
Norwalk, CA	TM/DAB
Orange Co., CA	GM/DAB SRT
Palo Alto, CA Plans to coordinate with existing bus service.	TM/SRT
Placer Co., CA	GM/DAB
San Bernadino, CA	GM/SRT TM/DAB
San Diego, CA (City and County) Expand hours and coordinate service with fixed route bus schedules.	TM/DAB
South Gate, CA	TM/SRT
Tracy, CA	GM/DAB SRT
Turlock, CA	GM/DAB
Bridgeport, CT	TM/DAB
Hartford/West Hartford, CT Service area to include 20 towns	TM/DAB
Westport, CT	GM/DAB TM/SRT
Dolver, DE	TM/DAB
Dade County, FL	TM/DAB SRT
Albany, GA	TM/DAB

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(Expansion of Existing Services, Continued)

SITE	MARKET/ SERVICE TYPE
Chicago, IL	TM/DAB
Indianapolis, IN Recently applied for SRT user-side subsidy demonstration; also studying E & H transportation needs for future expansion possibilities. Also interested in commuter vanpool program for municipal employees.	TM/DAB
Bettendorf, IA Plan to expand and coordinate DAB with fixed route service	GM/DAB
Des Moines, IA	TM/DAB SRT
Topeka, KS	TM/DAB
Sanford, ME	TM/DAB
Boston, MA Expand area and service	TM/DAB
Brockton Area Towns, MA	TM/DAB SRT
West Springfield, MA	TM/DAB
Worcester, MA	TM/DAB SRT
Alma, MI	GM/DAB
Ann Arbor, MI Expand and integrate with fixed route service.	GM/DAB
Big Rapids, MI Expand vehicle fleet and service area	GM/DAB
Gladwin Co., MI Expand to county-wide service area.	GM/DAB
Grand Haven, MI Expand equipment and service area.	GM/DAB

(Expansion of Existing Services, Continued)

SITE	MARKET/ SERVICE TYPE
Grand Rapids, MI Expand service area and coordinate with social service providers.	TM/DAB
Houghton Co., MI Expand equipment and service to county-wide area.	GM/DAB
Iosco Co., MI Previous service limited to E & H.	GM/DAB
Isabella Co., MI	GM/DAB
Jackson, MI	TM/DAB
Lake County, MI Expand service to entire county.	GM/DAB
Marshall, MI	GM/DAB
Midland, MI	GM/DAB
Muskegon, MI	TM/DAB
Niles, MI Expand service area and hours of operation.	GM/SRT
Ypsilanti, MI	GM/DAB
Western Area, NB Purchase additional vehicles	TM/DAB
Clark Co., NV	TM/DAB
Washoe County, NV	TM/DAB
Batavia, NY	GM/DAB
Livingston County, NY	TM/DAB
Nassau County, NY	DAB

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(Expansion of Existing Services, Continued)

SITE	MARKET/ SERVICE TYPE
Rochester-Greece-Irondequoit, NY Demonstration	GM/DAB TM
Syracuse, NY Expand capital and services. Also hope to initiate additional rural GM/SRT service; currently studying feasibility.	TM/DAB
Columbus, OH Plans to coordinate with fixed route service. Also hope to initiate new TM/DAB with peak subscription and off-peak DRT service.	GM/DAB
Cuyahoga Co., OH	TM/SRT DAB
Geauga County, OH Received FHWA Section 147 demonstration funds.	TM/DAB
Kent, OH Expand to city-wide service; also plan to initiate experimental broker agency.	TM/DAB
Lake County, OH	TM/DAB
Miami Valley, OH	TM/DAB
Oberlin, OH	TM/DAB
Youngstown, OH	TM/DAB
Xenia, OH	GM/SRT
Portland, OR	TM/DAB
Austin, TX	TM/DAB
Dallas, TX Hope to coordinate service with social service agencies.	TM/DAB
Houston, TX Expand TM service area to entire city. Interested in broker concept for demonstration-13(c) problems.	TM/DAB GM/DAB

(Expansion of Existing Services, Continued)

SITE	MARKET/ SERVICE TYPE	SITE	MARKET/ SERVICE TYPE
San Antonio, TX Also studying coordination of social service providers.	TM/DAB		
Spokane, WA	TM/DAB		
Madison, WI	TM/DAB		

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STUDIES

SITE	
Pueblo, CO	E&H Transportation Study
Colorado Springs, CO	Feasibility of E&H SRT versus DAB Service
District of Columbia	Restudying paratransit potential as feeder to Metro or for target market services.
St. Petersburg, FL	Trying to coordinate and integrate all transportation resources: private operators, transit authority, social service agencies. Public DAB system currently operating.
Savannah, GA	Study of E&H special transportation needs
Auburn, ME	Study of existing and alternative paratransit services

SITE	
Baltimore, MD	feasibility study; have existing semi- and non-ambulatory DAB service
Fetchburg, MA	Studying potential latent demand and marketing of DAB services
Albuquerque, NM	Study interfaced with UMTA demonstration to "evaluate optimal combination of public and private E&H transportation providers"
Binghamton, NY	Feasibility of DRT service in surrounding non-urbanized area
Gastonia, NC	E&H transit needs
Montoursville, PA	DRT feasibility; anticipate future services

(Studies, Continued)

SITE	
Reading, PA	E&H transportation needs
Abilene, TX	E&H transportation needs
Corpus Christi, TX	City currently operates TM/DAB service; studying additional E&H needs for future services
Midland, TX	Subscription, pooling, and demand-responsive service feasibility studies
Fredericksburg, VA	Feasibility of initiating new DAB service
Lynchburg, VA	Existing TM/DAB service; studying additional special community transportation needs

SITE	
King County, WA	Multi-modal general market study which will consider paratransit potential on par with other transit services
Seattle, WA	Studying brokerage concept for marketing existing transportation resources; hope to sponsor future coordinated services
Yakima, WA	Existing TM/DAB service; studying feasibility of expanding services
Madison, WI	Studying paratransit feasibility; anticipates future late-night GM/SRT service; also anticipates future GM/DAB subscription service

NEW TECHNOLOGY

The work performed under this contract, while not leading to any new technology, does provide the most comprehensive and up to date source of information on how to plan, design, implement, operate, and evaluate paratransit systems. This Handbook will be invaluable to transit decision makers, planners, and operators in the development of local public transportation.

USER'S GU

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